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ABSTRACT

This report by the Planning and Budgeting Committee (PBC) of the Council for Higher Education in Israel discusses the resources and actions needed within higher education in Israel in order to provide access to education to students from abroad as well for Israeli citizens. The report describes Israel's higher education system, as well as the planning for new units and the closure of others. It also examines the higher education budget, the development of an academic infrastructure and promotion of research and scientific excellence, and the funds needed for the encouragement of research in Special Subjects that is financed jointly with other organizations. Additionally the report addresses the following subjects: inter-univesity cooperation; student aid; and other activities and allocations such as those for foreign students, regional colleges, pre-academic preparatory courses, and the advancement of peripheral hospitals. Finally, the report describes the PBC and the Israeli government and how they interrelate. Appendices include the following: (1) the subjects discussed at the meetings of the PBC and the Council for Higher Education in 1989/90; (2) students in universities - 1969/70 to 1989/90 - by university and degree level; (3) students in non-university institutions of higher education - 1983/84 to 1989/90; (4) recipients of degrees from universities - 1969/70 to 1988/89; (5) registration in academic courses and graduates at The Open University - 1983/84 to 1989/90; and (6) active university staffs at all and selected universities. (GLR)

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THE PLANNING
AND BUDGETING
COMMITTEE

Annual Report No. 17
Academic Year 1989/90

Presented to the Council for Higher Education
Jerusalem, April 1991

Editor: Ricky Mandelzweig

English version translated and edited by Yael Atiyah

The Planning and Budgeting Committee of the
Council for Higher Education
POB 4037, Jerusalem 91040, Israel

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FOREWORD BY THE CHAIRMAN OF THE PLANNING AND BUDGETING COMMITTEE (PBC)

The 1989/90 academic year drew to a close in the midst of an all-out effort by the State of Israel to absorb the massive wave of immigrants from the Soviet Union. The higher education system, of course, is taking part in this effort. A revolution in planning and preparedness undoubtedly faces the system.

The PBC was first called upon to deal with this issue a year ago when it coordinated the actions of the institutions of higher education. At that time the PBC determined that the higher education system should strive to absorb qualified and capable immigrant students in existing undergraduate and graduate programs, while maintaining the same standards of admission demanded of all applicants for admission and, at the same time, increasing significantly the number of students in the higher education system.

Forecasts of student numbers indicate an increase of 19,000 to 30,000 students out of an immigrant population of one million. To this number we must add the natural increase in the number of Israeli students in the next four or five years - approximately 8,000.

The PBC's long-term budgetary programs, which were adopted by the Ministry of Finance and have been in operation since the 1987/88 academic year, are intended to promote university research and instruction and to provide for the natural increase in the number of students.

The PBC also presented to the Ministry of Finance a detailed budgetary plan to cover teaching and research expenses connected with the absorption of an even greater number of students, due to immigration. I am pleased to note that this plan has also been incorporated into the State budget proposal for 1991 which was presented to the Knesset (Parliament) for approval by the Government. This has enabled the PBC to inform the universities that budgetary advances will be made available to them for the years 1990/91 and 1991/92, until the present increase in student numbers results in a larger number of graduates, and with it increased PBC allocations. The criteria for the determination of the budgetary advances for undergraduate and master's degree students in the humanities, social sciences, natural sciences and engineering were also announced.

Forecasts for increases in student numbers at each institution were determined. The budgetary advances are intended for increases over and above the rate of natural growth, which had already been taken into consideration when long-term budgetary agreements were prepared. This step should lessen the uncertainty of the institutions regarding the academic and budgetary planning involved in such an increase in student numbers. The institutions were also requested to present to the PBC any requests for new construction necessitated by the increase in student numbers.

The PBC's policy is to encourage accelerated growth in the universities in the north, the south, and in Jerusalem, and to strengthen scientific and technological subjects. The PBC supports an increase in the number of students in the academic programs at regional colleges. Universities operate these programs together with the Open University, which is itself an important tool for rapid response to increased demand for higher education in coming years.

The PBC is of the opinion that the opening of a limited number of additional degree-granting institutions in technology (on the format of Jerusalem College of Technology or Shenkar - College of Textile Technology and Fashion) may be inevitable. We should base our plans on a limited number of high-quality post-secondary institutions for technological training which will be able to upgrade themselves as necessary. The need for new institutions of this type stems from the increase in student numbers due to immigration and the anticipated educational preferences of the new immigrants.

As part of the planned expansion of the higher education system described above, and despite its policy of encouraging students to study in the north and the south of the country, the PBC is of the opinion that preparations should be made for the establishment of an undergraduate college in the center of the country. Such an institution would offer certain subjects only and would have to have at least 4,000 students in order to maintain academic quality and economic efficiency.

The PBC has brought both of these issues before the Council for Higher Education.

The level of government participation in the ordinary budgets of the universities (including tuition fees) is now 80% as a result of adoption of the PBC's long-term budgetary program. In 1991/92 government allocations to the higher education budget will be 17% higher, in real terms, than in 1986/87. Approximately 70 million New Israeli Shekels (NIS)* have been added to the basis of the annual budget; accumulated additions amount to NIS 150 million. Much of this money was designated for earmarked allocations for basic research in the universities, scientific equipment and laboratories. Because of the extra budgets that will be needed for the absorption of new immigrants, with all that entails, it does not seem likely that the State of Israel will be able to increase even further its level of participation in higher education budgets.

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* 1$ = NIS 2.01 in 1989/90.

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The additional resources necessary for consolidating the higher education system and promoting the scientific welfare of academic staff and their means for research and teaching must be obtained in the following ways:

a. structural and academic changes that will bring about a significant expansion of the number of undergraduate students in the universities and other institutions, at a relative low cost, so that most of the extra resources that will be made available to higher education may be diverted to the expansion, development and advancement of scientific research in the universities and to increasing the number of graduate students in the system;
b. diversion of a substantial share of the additional resources provided for in the final stage of the PBC's long-term program and a follow-up program to research and the resources necessary for developing and advancing it.

The expansion forecasted for the higher education system represents, therefore, a unique opportunity to implement changes in the system - an opportunity that we must not miss.

At the same time, we must keep in mind the fact that the rate of growth of university academic staffs is limited by considerations of excellence and quality; it does not depend solely on needs arising from additional students. As a result, the universities cannot serve as a permanent place of work for thousands of new immigrant scientists, all the more so since we must assume that a considerable number of new academic staff members will be Israelis returning from abroad. On the other hand, some of the new immigrant scientists coming to Israel are, undoubtedly, brilliant and must be absorbed into the higher education system, where their contribution to science in Israel could be cardinal. Nevertheless, the higher education system can, and should, assist in the permanent absorption of new immigrant scientists and engineers by offering retraining and refresher courses for them and by participating in research initiatives and industrial development.

With the publication of this report I conclude more than five years of tenure as Chairman of the PBC. A summary of the achievements of this period, as well as all that remains to be accomplished, appears in the second part of this report.

I owe personal thanks to my friend, Justice Moshe Landau, who, as Deputy Chairman of the Council for Higher Education, piloted the Council through stormy and turbid waters during the long months when a Minister of Education and Culture did not serve as Chairman.

It is my privilege to thank the Minister of Education and Culture, Mr. Zevulun Hammer, for his steadfast support and assistance in the past months, when the public pressed for the opening of the higher education system to all holders of a matriculation certificate, without regard for the needs of the economy, science and society in Israel or for the costs entailed in such a step. I must also note the firm support of the previous Minister of Education and Culture, Mr. Yitzhak Navon, with whom I had the honor of working for four years, who upheld higher education both inside the Government and out of it.

If this report sets out the achievements and promotion of the higher education system during the past five years, it is in a large measure due to the assistance of the prime ministers and ministers of finance during this period: Yitzchak Shamir, Shimon Peres, Moshe Nissim and Yitzchak Modai. My heartfelt thanks to these four.

Jacob Ziv

THE REPORT OF THE DIRECTOR-GENERAL

This is my first year as Director-General of the Council for Higher Education, following upon five years during which I was in charge of budgets for the Council.

In recent years the PBC has been careful to lead the higher education system toward comprehensive long-term planning - including budgeting, academic development and determination of long-term priorities.

This process is still underway and it should be noted that most of the institutions have expressed their willingness to participate in programs that will allocate resources for a number of years in advance concurrently with a recovery plan intended to curtail superfluous academic and administrative activities and replace them with more essential ones.

This way of thinking has proven its merit and is in line with national thinking on the allocation of resources according to output rather than input, which may sometimes lead to deficits and/or inefficiency.

Immigration must now also become part of long-term planning. This is a subject which requires both immediate and long-term solutions and entails a sharp increase in the number of students in the higher education system.

As part of this endeavor, we must prepare for and plan an additional institution or institutions, the cost of which should be less, relatively speaking, than the cost of a research university. Our efforts will naturally be directed primarily at expanding the existing system but we must take care lest qualitative output suffer. If we were to add new research institutions, resources would have to be distributed evenly among them all, thereby reducing the allocations to the existing institutions.

During 1989/90 some of the institutions of higher education began to reduce their accumulated deficits, after the restriction of university debts to banks. Enlarged PBC allocations also aided in the balancing of budgets, thus fulfilling a necessary precondition for the recovery of the institutions of higher education and the start of their quantitative and qualitative growth. Enlarged budgets are, however, insufficient by themselves for this purpose.

During this year the PBC began to develop a system of indicators for research and teaching which will enhance the decision-making process.

The PBC's administrative staff has always striven to build up a strong statistical base upon which the decision-making process can depend, and for this I thank the Council's dedicated employees.

We are now taking leave of Prof. Jacob Ziv, with whom I have come a long way. His professional inspiration guided me in my work, first as Director of Budgets and later as Director-General of the Council.

Finally, I would like to express my gratitude to my predecessor, Mr. Simcha Landau, from whom I learned a great deal.

Gury Zilkha

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I

THE PLANNING AND BUDGETING COMMITTEE (PBC)

The Committee

Prof. Jacob Ziv - Chairman

Prof. Yadin Dudai

Mr. Gurion Meltzer[1]

Prof. Gur Ofer

Prof. Ozer Schild[2]

Mr. Haim Stoessel

The Administration

Mr. Simcha Landau[3] - Director-General

Mrs. Techia Karcz - Secretary, Council for Higher Education and PBC

Mr. Gury Zilkha[4] - i/c Budgets and Director-General

Miss Ruth Silberberg - Deputy Director-General and i/c Development and Planning

---

[1] Withdrew from the PBC on May 13, 1990 after completing two terms of membership.

[2] Withdrew from the PBC on March 1, 1990, upon appointment as President of the University of Haifa.

[3] Retired on May 31, 1990. Replaced by Mr. Gury Zilkha.

[4] i/c Budgets until May 31, 1991, then Director-General.

1.1
The Terms of Reference of the Planning and Budgeting Committee

The terms of reference of the Planning and Budgeting Committee, as defined in Government Decision No. 666 of June 5, 1977, are as follows:

> The Government authorizes the establishment, as a subcommittee of the Council for Higher Education, of the Planning and Budgeting Committee, which the Minister of Education and Culture has appointed with the approval of the Council for Higher Education, in order to fulfill the following principal functions:
>
> 1. To be an independent body coming between the Government and the national institutions, on the one hand, and the institutions of higher education on the other, in all matters relating to allocations for higher education. The Government and the national institutions shall refrain from receiving requests or recommendations from the institutions of higher education themselves or from any other source. They shall also refrain from allocating funds to an institution of higher education other than on the recommendation of the Planning and Budgeting Committee.
>
> 2. To submit the ordinary and development budget proposals for higher education, taking into account the needs of society and the State, while safe-guarding academic freedom and assuring the advancement of research and learning.
>
> 3. To have exclusive authority to allocate to the institutions of higher education the global approved ordinary and development budgets.
>
> 4. To submit to the Government and to the Council for Higher Education plans for the development of higher education, including their financing.
>
> 5. To encourage efficiency in the institutions of higher education and coordination between them with a view to preventing superfluous duplication and bringing about economy.
>
> 6. To ensure that budgets are balanced and that there are no deviations from them.

7. To express its opinion to the Council for Higher Education before the Council reaches a decision on the opening of a new institution or a new unit having financial implications in an existing institution. The considered opinion of the PBC will include answers to the following questions:
   a. Is there a need for the new institution or for the new unit?
   b. What are the financial implications of opening the new institution or the new unit? The PBC will determine whether the opening of the new unit has or does not have financial implications.

1.2
The Status of the PBC and its Composition

The Planning and Budgeting Committee (PBC) of the Council for Higher Education was established in 1974, based on the model of the British University Grants Committee (UGC). The Government determined that the PBC would be "an independent body, coming between the Government and the national institutions, on the one hand, and the institutions of higher education on the other". The PBC's decisions in those matters delegated to it by the Government are completely independent.

The PBC is composed of six members: four professors from the university system, who may not hold any positions of administrative responsibility in their universities during their tenure as PBC members; and two public figures from the economic, business or industrial sectors of the economy. Two professors represent the humanities, social sciences, law or education and two the natural sciences, engineering, medicine or agriculture. This composition is intended to ensure an overall and balanced view of subjects brought before the committee.

The PBC's responsibility as trustee for higher education on behalf of the Government places it in opposition to the heads of the universities while, at the same time, obligating it to represent the interests of higher education in Government and Knesset (Parliament) discussions and decisions.

1.3
The Work of the PBC

1.3.1 Plenary Sessions

Between October 1989 and September 1990 the PBC met for 25 sessions.

A list of the subjects discussed at PBC meetings appears in Appendix 1.

1.3.2 Sub-committees of the PBC

The following sub-committees were active in 1989/90:

- The Selection Committee for the Yigal Allon Fellowships;
- The Committee for Fellowships for Outstanding Doctoral Candidates in the Humanities and Social Sciences;
- The Committee for Computers;
- The Committee for Compucation;
- The Steering Committee for Super-Computers;
- The Steering Committee for the Inter-University Library Network;
- The Executive Committee of the Inter-University Center in Eilat;
- The External Review Committee for Life Science Subjects in the Universities;
- The Inter-Institution Academic Committee for the Ben-Gurion Research Center.
- The Inter-Institution Academic Committee for the Institute for Desert Research;
- The Committee for Loans to Students;
- The Committee for Matching Allocations;
- The Committee for Budgetary Balance in the Institutions.

Members of the PBC serve as chairpersons or members of most PBC sub-committees. Members are selected according to their qualifications or area of specialization from among the senior staffs of the universities and the private or public sectors of the economy. Committee members do not receive any remuneration for their services. PBC staff members serve as committee coordinators. PBC members also serve as members of committees of bodies funded by the PBC, such as the Basic Research Fund and the various joint research funds.

1.3.3 The Administrative Staff

The Council for Higher Education and the PBC have a permanent staff composed of 20 1/2 established posts, including the post of director-general. Thirteen of these posts require academic degrees.

The PBC's administrative staff is divided into three sub-units:

* **The secretariat** of the Council for Higher Education and the Planning and Budgeting Committee;
* **The ordinary budget**, including wages and matching allocations;
* **planning and development**, including statistics, indicators and academic planning.

1.4
The PBC and the Council for Higher Education

The Council for Higher Education is the State institution responsible for higher education, including teaching, science and research, in Israel. The PBC is a sub-committee of the Council and its executive arm. The Chairman of the PBC is ex-officio a member of the Council. PBC staff are employed in accordance with the provisos of the Council for Higher Education Law. The Chairman of the PBC reports to the Council on the activities of the PBC at every meeting of the Council.

In addition to its regular work on budgets and planning, the PBC advises the Council in such matters as the approval of new units or accreditation of new institutions, taking into consideration planned development of the higher education system, financial implications and the needs of the State.

Since 1980/81 new units are processed according to rules agreed upon with the institutions of higher education and approved by the Council. According to these rules the institutions inform the PBC of their plans for any new unit or change in existing units. The PBC examines the proposals from the point of view of the needs of the State, prevention of unnecessary duplication and financial considerations. If the PBC is of the opinion that the new unit has no financial implications and there is no need to examine it from the aspects of the needs of the State or unnecessary duplication, the PBC takes note of the new unit or change and notifies the institution concerned and the Council. In all other cases, as well as requests for a permit or accreditation, the PBC forwards the matter to the Council which then appoints an examining committee. The conclusions of the examining committee and the PBC's recommendation are presented to the Council for discussion and a decision.

Requests by teacher training institutions for permission to open programs leading to the degree of "Bachelor of Education" are not examined by the PBC. The Council discusses them after the Ministry of Education and Culture has examined them and presented its recommendations.

A list of subjects discussed in Council meetings appears in Appendix 2.

2

THE HIGHER EDUCATION SYSTEM

2.1
General Data

The higher education system in Israel includes universities, institutions providing instruction at the bachelor's degree level only in technology, the arts and teacher training, and courses in regional colleges for which universities are academically responsible.

The universities are:

The Hebrew University of Jerusalem

The Technion - Israel Institute of Technology

Tel-Aviv University

Bar-Ilan University

The University of Haifa

Ben-Gurion University of the Negev

The Weizmann Institute of Science

The Open University of Israel

Institutions of higher education which are not universities and are authorized to award only the bachelor's degree:

Bezalel - Academy of Arts and Design, Jerusalem

The Jerusalem Rubin Academy of Music and Dance

Jerusalem College of Technology

Shenkar - College of Textile Technology and Fashion

*

Ruppin Institute of Agriculture
Accredited and authorized to award the bachelor's degree
in the program in economics and management
of communal settlements

*

The College of Management - Academic Studies, Tel-Aviv
The academic program is accredited and authorized to award the bachelor's degree in accounting and marketing.

*

Six institutions for the training of teachers that have received accreditation and authorization to award the degree of "Bachelor of Education" (for various programs of study):

Michlala, Jerusalem College for Women

The David Yellin Teachers College

Beit-Berl Teachers Training College

The Zinman College of Physical Education at the Wingate Institute

Levinsky Teachers College

State Teachers College Seminar Hakibbutzim

*

Two institutions for the training of teachers that have received a permit to open and maintain an institution of higher education:

"ORT" Academic College for Teachers in Technology
Program for the training of teachers in technology in the field of electronics.

"Oranim"
The School of Education of the Kibbutz Movement - course for the training of kindergarten, primary school and special education teachers

*

Academic courses in regional colleges for which universities are academically responsible:

The Municipal College of Eilat
Academic responsibility of Ben-Gurion University of the Negev

The S. Sapir Regional College of the Negev
Academic responsibility of Ben-Gurion University of the Negev

The Achva College
Academic responsibility of the Open University

The Menashe Regional College
Academic responsibility of Tel-Aviv University

The Alperin Regional College of the Jordan Valley
Academic responsibility of Bar-Ilan University

The Emek Yezrael Regional College "Ohel Sarah"
Academic responsibility of the University of Haifa

Western Galilee Regional College
Academic responsibility of the Open University
and the University of Haifa

The Tel-Hai Rodman Regional College
Academic responsibility of the University of Haifa;
Agricultural courses academic responsibility of
the Hebrew University of Jerusalem

The Judea and Samaria Regional College
Academic responsibility of Bar-Ilan University

*

Data in this report refer only to institutions that the PBC budgets. Fields of study at the institutions of higher education are listed in Appendix 4.

*

In 1989/90 there were approximately 67,750 students in the universities studying for academic degrees and diplomas, compared with 65,400 the previous year. This does not include studends in special programs that do not lead to academic degrees.
In the Open University approximately 13,000 students took academic courses. There were about 1,900 students in non-university institutions of higher education and a further 4,700 students in the academic programs in teacher training colleges. (There were also approximately 1,900 students in institutions of higher education not budgeted by the PBC.

Data on students in the universities and non-university institutions of higher education budgeted by the PBC appear in Appendices 5 - 7 and 9.

Approximately 47,000 (70%) of the students in the seven universities in 1989/90 were studying for the bachelor's degree, 16,000 (22%) for the master's degree, 3,900 (6%) for the Ph.D. and 1,100 (1%) for a certificate (mainly secondary school teaching certificates).

In 1988/89 (final data for 1989/90 are not yet available) approximately 13,200 students received academic degrees from universities, 74% of them the bachelor's degree, 19% the master's degree and 3% the Ph.D. or its equivalent. A further 280 students received the bachelor's degree from the Open University, 380 from the non-university institutions of higher education, and 510 from teacher training colleges. Data on recipients of degrees appear in Appendices 8 - 10.

Data on staff in universities and non-university institutions of higher education appear in Appendices 11 and 12.

Data on built-up areas in the universities appear in Appendix 13.

2.2
Major Developments in the Institutions of Higher Education[1]

2.2.1 The Hebrew University of Jerusalem

The academic activity of the Hebrew University of Jerusalem is organized into the following units: the Faculty of Humanities (including the School of Education), the Faculty of Social Sciences (including the School of Business Administration), the School of Social Work, the Faculty of Law, the School of Library and Archive Studies, the Faculty of Mathematics and Sciences (including the School of Applied Science and Technology), the Faculty of Medicine (including the Schools of Pharmacy, Nursing, and Occupational Therapy), the Faculty of Dentistry and the Faculty of Agriculture. In addition, the University operates a School for Overseas Students.

The University has four research institutes, an institute for advanced studies and other units of a distinctive character. There are four university campuses - three in Jerusalem (Givat Ram, Mt. Scopus and Ein Karem) and one in Rehovot.

The following is a survey of the University's activities in 1989/90:

- Instruction
  - Following the decisions of the academic policy committee, new committees began to operate in the areas of integration of instruction in the faculties that

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[1] According to surveys prepared by the institutions of higher education funded by the PBC.

teach the life sciences, coordination of new appointments and the establishment of directions for research and development.

- The "Amirim" program for outstanding students in the Faculty of Humanities and Social Sciences was opened. A similar program already exists in the Faculties of Natural Sciences and Agriculture. The main features of the program are a flexible, personalized study program, one-on-one tutoring and a research project.

- The Senate has approved a bachelor's degree program in communication, in addition to the existing master's degree and doctoral programs in this field. The program has been presented to the Council for Higher Education for approval.

- It was decided in principle to increase the number of students admitted to the Faculty of Law.

- Study sections have been operated for the first time in the Department of Germanic Studies in the Faculty of Humanities. The sections offered to students are: German history, general and Jewish German history, German language and literature, and a combined history and literature section.

- A section for Muslim archaeology, in cooperation with researchers of Islam from the Institute of Asian and African Studies, has been added to the Institute of Archaeology.

- A new study trend leading to the master's degree in the Faculty of Social Sciences is now offered - anthropology and social history.

- A new program for the retraining of pharmacists was opened.

- A new study trend leading to the bachelor's degree in nursing was added in the School of Nursing, intended for candidates for military service or those who have completed their military service as combat paramedics.

- The University is preparing for the absorption of new immigrant students - in 1989/90 more than 200 new immigrants from eastern Europe studied in the preparatory course of the Rothberg School for Overseas Students. This number is expected to reach 700 in 1990/91. The University has opened a special four-year program in the natural sciences in Russian.

- Training programs for new immigrant doctors and dentists from the Soviet Union have been devised in order to familiarize them with medical practices in Israel and to prepare them for Israeli licensing examinations. A program to train new immigrants from Ethiopia as teaching personnel in schools was held. Preparations are being made for a program to retrain new immigrant scientists as secondary school science teachers.

* Research

- Externally funded research at the Hebrew University in 1989/90 amounted to $38 million, an increase of $3 million over the previous year. As before, most of the budget was directed to researchers in the Faculties of Natural Science, Medicine and Agriculture.

- Research activity has expanded, particularly in the fields of: brain research and neuron networks; parallel computers; biological pest-control in agriculture; the use of lasers in medicine and dentistry; the use of game theory to understand ecological systems; comparative literature and European history.

- In addition to income from binational research funds (the GIF, BSF and BARD), the University increased its income, in the year under review, from US Federal sources (NIH, AID and the US defense system) and from the Fund for Basic Research of the Israel National Academy of Sciences and Humanities.

- The following new research centers were established: the KMart Center for Retailing and Marketing; the Silbert Center for Israel Studies; the Lafer Center for Women's Studies; the Berman Center for Biblical Archaeology; and the Franz Rosenzweig Center for German - Jewish Cultural Relations.

- A new vector/parallel computer, a Convex C-220, was installed and will provide "super processing" facilities for researchers who until now had to use similar computers abroad for their work.

- The University hosted over 30 scientific conferences in various fields, among them: the First International Conference on Equity; a conference on the "Formation of Large-Scale Structure in the Universe"; a conference on "Children in War"; and the Third International Conference of Leech Scientists (for the medical application of leeches).

* Academic and Administrative Management

- Following the report of the committee headed by Prof. Henry Rozovsky and lengthy discussions in the University and the Board of Governors, changes in the University constitution and statutes were adopted. The changes will bring about greater intergration between academic and general administration and the involvement of senior officials in the process of selecting other officials. Other changes will affect the composition of the Board of Governors and its Executive Committee and the definition of the responsibilties of the Executive Committee, which will replace the University's standing committee.

- The maintenance departments of the four campuses were combined into one department in order to optimize the efficient utilization of resources.

- A complete master-plan for the computerization of University administration was drawn up and is being implemented. The plan entails the computerization of the University's financial, personnel and maintenance management as well as other important areas. The main elements of the plan are already in operation and it will be completely implemented within 18 months.

* Physical Development

- The old student dormitories in the Kiryat Yovel neighbourhood of Jerusalem are being completely refurbished in order to meet the housing needs of University students. 510 new places will be added to those available in student dormitories for the 1990/91 academic year.

- Cornerstones have been laid for two new dormitory buildings on the Mt. Scopus campus, with places for 160 students. Construction will begin in a few months.

* Agreements with Universities Abroad

Agreements for academic cooperation were signed this year with Humboldt University in East Berlin, the University of Prague, the University of Tbilisi in the Georgian SSR, Yonsei and Konkuk Universities in Korea, the Universities of Valladolid and Salamanca in Spain, and the University of Ottawa in Canada. In addition, the agreement for cooperation with the Complutense University of Madrid was expanded.

2.2.2 The Technion - Israel Institute of Technology

Academic activity at the Technion is organized in the following faculties and departments: architecture and town planning (including landscape architecture), aeronautical engineering, civil engineering, electrical engineering (including computer engineering), biomedical engineering, materials engineering, agricultural engineering, chemical engineering, mechanical engineering, industrial engineering and management, food engineering and biotechnology, mathematics (including applied mathematics), computer science, nuclear engineering, physics, chemistry, biology, and teaching in technology and science.

The School of Medicine, which was founded in 1969, has been part of the Technion since 1973.

The "Technion Research and Development Foundation" is an independent authority carrying out research and development projects commissioned and funded by external sources.

For the first 30 years of its existence the Technion was located in Hadar-HaCarmel. In 1953 construction of the Technion City on Mt. Carmel started and departments began to move there in 1955.

The central aspect of the Technion's activity this year was clearly the wave of immigration and the Technion's preparation to fulfil its unique role in the absorption of new immigrant students, scientists and engineers.

Shortly after receiving preliminary forecasts of the scope and social composition of the immigration, a high-level task force was set up to prepare short and medium range plans in all aspects of immigration, from student dormitories to retraining courses for engineers, and initiative centers.

* Instruction

- In accordance with a decision of the Senate and with the approval of the Council for Higher Education, a new undergraduate program in materials engineering was introduced. The large number of applicants to this program show that the opening of the program was justified.
- A interdisciplinary master's degree program in biotechnology was started.
- A committee was set up to examine the study load in undergraduate programs in general, and the first year study load in particular.

- The Unit for Biomedical Engineering has been upgraded to a regular academic department.
- The Department of Education in Technology and Science was reviewed by an international examining committee, thus completing the first round of periodic examination of all academic units.
- The development of a special program to encourage and promote excellence is underway.

* Research

- Externally funded research amounted to approximately $20 million.
- The activities of Technion-related companies for research, development and application amounted to approximately $15 million. The Technion's partners in these companies are industrial companies or risk capital funds.
- The National Institute for Building Research was established in October 1988, based on the previous Building Research Station that existed at the Technion for many years. The scope of its activities continues to increase, supported primarily by the Ministry of Construction and Housing, and amounts to almost $1.4 million annually.
- Toward the end of 1989/90 an agreement was signed that will ensure long-term funding of medical research at the Rappaport Institute for Medical Sciences.

* Administration

- After lengthy negotiations with staff organizations, preparations for the transfer to a five-day work week were completed.
- The internal control system has begun a methodical review of administrative units.
- Reorganisation of the fund-raising divison commenced.

* Physical Development

Projects constructed and completed during 1988/89 and the first half of 1989/90 were the following:
- The Mirochnick Gymnasium
- The Swig-San Francisco Sports Hall
- The Ram Sagi Physical Fitness Center

- The Gertrude and Raymond Pepp Day-Care Center
- The shortage of student housing on and off campus intensified as a direct and indirect result of immigration. As a partial emergency solution to this problem, remodelling of student apartments has begun, in order to expand the occupancy of these apartments from two students to three.

* Special Events

- Recent formal agreements between the Technion and university institutions abroad led to a number of scientific conferences in Haifa or abroad.

- The annual meeting of the Board of Governors was also devoted to the theme of immigration and was utilized to increase the awareness of the Technion Societies in Israel and abroad to the historical significance of the hour and the challenges facing the Technion in this connection.

2.2.3 Tel-Aviv University

The academic activity of Tel-Aviv University is organized in the following units: the Faculty of Life Sciences; the Faculty of Exact Sciences; the Faculty of Engineering; the Faculty of Medicine; the Faculty of Humanities, including the School of Education, the School of History, the School of Language and Literature and the School of Jewish Studies; the Faculty of Law; the Faculty of Visual and Performing Arts (including the Academy of Music); the Faculty of Social Sciences; the Faculty of Management and the Graduate School of Business Administration; and the School of Social Work.

During 1989/90 the academic activity of Tel-Aviv University was centered in the following areas:

* Instruction

In 1989/90 the University did not open any new study programs but changes were made in a number of existing programs.

- The literature and linguistics trends in the Department of French Language and Literature were combined into one trend - the French culture trend. The theoretical and Semitic trends in the Department of Linguistics were combined into one trend - the general trend. As of the 1990/91 academic year the pre-legal program will be discontinued and a larger number of students will be admitted directly into the first year of studies in the Faculty of Law.

- A School of Allied Health Sciences was established, combining the departments of nursing, communication disorders, physiotherapy and occupational therapy.
- Thirty new academic staff members were appointed during the year, thirteen of them Yigal Allon Fellows. Fifteen academic staff members retired and another seven left the University.

* Research

- The number of researchers presenting research proposals continued to grow in 1889/90 - 800 research proposals were presented, compared with 704 in 1988/89.
- The monetary value of research grants also continued to grow, amounting to $16,000,000, compared with $13,500,000 in 1988/89.
- In 1989/90 the University received two large research grants, amounting to $260,000, from the Ministry of Science and Technology. They are for the development of the fields of electro-optics and biotechnology.
- During 1989/90 new professorial chairs were added in the following fields: economic theory, history of the Hebrew language, environmental zoology and electro-optics. A special chair for visiting professors was also established.
- In view of the national importance of immigration and absorption, the University established a committee, headed by a Dean of Absorption, that will deal efficiently and centrally with all aspects of the subject.
- In order to increase the research activity of the University and to employ immigrant or recently returned Israeli scientists in a non-tenured framework, several institutes for applied research will be set up. These new institutes will not be conditional on receipt of large donations to cover the costs entailed, as was required in the past. The fields in which new institutes may be set up are: Dead Sea research, electro-optics, molecular biology, atmosphere and space research, and environmental ecology.
- In addition to scientific agreements with universities and institutes abroad, Tel-Aviv University was admitted

to membership in the international union attached to the National Center for Atmospheric Research in the United States.

* Administration

- New attendance procedures (installation of time clocks) on campus and the transfer to a five-day work week highlighted administrative events this year.
- Computerized information stations for students were set up all over the campus, providing them with services such as confirmation of studies, grades, etc. directly, bypassing departmental secretariats.
- In-house training programs were offered in the unit of student services, in order to improve the level of service offered to students.
- The following information systems are in various stages of develpment: a personnel management system is being established, a system for the recognition of donors and a pre-research system were developed, and an inventory system and a central control system for buildings management and properties are being developed.

* Physical Development

- The following buildings were completed: the Brender-Moss Library of Social Sciences and Management; the Goldreich Family Multipurpose Sports Building, an engineering studies building and a building for electronics laboratories.
- New parking facilities were developed on campus and nearby, including new access roads from the Ayalon Freeway.
- Construction of a new student services building has begun. It will bring together most student services, as well as provide an enlarged University book store.

* Plans for the Future

- The University is gearing itself for the absorption of new immigrant staff and students, at all levels. An intensified doctoral program has been drawn up for new immigrants and will be implemented on an experimental basis in 1990/91.
- The preparatory program for new immigrants will be expanded by 1990/91.

- The University Senate approved, in principle, the establishment of an undergraduate college attached to the University.

2.2.4 Bar-Ilan University

The academic activity of Bar-Ilan University is organized in the following units: the Faculty of Jewish Studies; the Faculty of Humanities; the Faculty of Social Sciences (including the School of Education and the School of Social Work); the Faculty of Law and the Faculty of Natural Sciences and Mathematics.

The University's research activity is carried out through the Research Authority. The University established a research and development company.

The University campus is located near Ramat-Gan. The University is academically responsible for the Jordan Valley Regional College and for university branches in Ashkelon and Safad which will join the regional college system as of 1991/92.

* Instruction

- **The Faculty of Jewish Studies**
  The number of applicants for admission to the Faculty increased in 1989/90.
  A new doctoral program in the Department of Land of Israel Studies was approved.

  Computer Laboratories: A computer laboratory was established that will serve the following purposes:
  a. as a language laboratory for teaching Hebrew to overseas students, especially new immigrants;
  b. as a computer classroom for teaching the use of computers to Faculty students who plan to continue their studies for advanced degrees. It is hoped that one day the use of computers will be a mandatory subject for all undergraduate students.

- **The Faculty of Social Sciences**
  The Faculty made great efforts to improve instruction, to refresh the curricula, to introduce new fields of study and to utilize visual aids in instruction (computers, televisions, videos, software, computerized information stores, etc.).

The Department of Geography - a new study trend was approved - geography as a major and life sciences as a minor. New courses were offered in ecology, biogeography and landscape ecology. Courses were offered in automated mapping by satellites and aerial photographs, geographical information systems and computerized cartography.

The Department of Sociology and Anthropology - efforts are being made to develop the specialization option in organizational sociology. Many students of the specialization received preliminary experience in organizational analysis by working as researchers in factories and public and private organizations.

The Department of Psychology - A Yigal Allon Fellow joined the staff this year. His speciality is psychobiology and he will teach the new trend in behavioral biology.

- **Faculty of Law**

The number of applicants for admission to the Faculty of Law is increasing. In 1989/90, 95 first-year students were admitted out of 1,300 applicants. In 1990/91, 125 first-year students will be admitted.

The rigorous selection standards have brought about a significant improvement in the level of law students, although many qualified potential students must be rejected. Law students are among the most qualified students and the completion rate of students is optimal.

Master's Degree Program - A non-thesis master's degree program in the Faculty of Law operates alongside the existing thesis program. This program is intended for students who are employed as lawyers and desire more theoretical legal knowledge and expertise in certain areas.

Doctoral Program - The number of doctoral students has increased significantly in recent years, the majority of them in the direct doctoral program. Most are employed in research and instruction and represent the nucleous of the continuation of the Faculty's academic staff. Today there are 15 doctoral students in the Faculty.

- **The Faculty of Natural Sciences**

a. a new undergraduate program in biotechnology was developed;

b. a master's degree program in statistics was opened;
c. an interdisciplinary program emphasising environmental studies and including life sciences as a major and geography as a minor was approved;
d. the program whereby outstanding secondary school students take part in academic courses in the Department of Mathematics as proven to be a success.

* Research

- **School of Education** - Two new research centers have begun to operate: The "Baker Center" for research in developmental disorders of infants and children and the "Maoz Fund" for research in social education.

- **The School of Social Work** - Approval was granted for the establishment of a center for the family.

- **The Department of Geography** - A study of erosion and sand movement along Israel's coastline is underway, financed by Israel Oceanological and Limnological Resarch.

- **The Department of Psychology** - Development of laboratories for developmental psychobiology has started, financed by the Allon Fund.

- **The Faculty of Natural Sciences**
  a. Provisions have been made in the clinical laboratory and the field of biotechnology in order to strengthen research connections with hospitals and industry.
  b. Many conferences and symposia were held at the Cancer, AIDS and Immunology Research Institute. Researchers from abroad visited the Institute and took part in joint research projects.
  c. The Research Institute in Mathematical Science held a number of conferences. Dozens of researchers from abroad spent periods of time at the University working on joint research projects.
  d. A new research team for the study of group theory and logic has been formed.
  e. The Department of Physics hosted the Third Conference on Frontiers in Condensed Matter.

* Development

- The libraries have acquired CD-ROM data bases in sociology (SOPODA SOCIOFILE) and education (ERIC).

- A center for video tape viewing is being set up in the Social Sciences Library, in association with the Bar-Ilan - Brookdale program.
- Cataloging and computerization of maps and aerial photographs has begun, as part of the development of a library of maps and aerial photographs.
- A national center for magnetic measurement of superconductors is being established.

* Conferences and Events

Fifty-two study days and conferences in all fields were held at the University during 1989/90.

* Preparations and Plans for the Future

The Faculty of Law
The main trend is progress in increasing the number of undergraduate and advanced students, the construction of a building, increasing the number of lecturers and advanced training programs for lawyers. Visiting lecturers from abroad will be invited to the Faculty.

2.2.5 The University of Haifa

The academic activity of the University of Haifa is organized in the following units: the Faculty of Humanities; the Faculty of Social Sciences and Mathematics; the School of Education and the School of Social Work.

The University of Haifa, together with the School of Education of the Kibbutz Movement "Oranim" has an academic section that awards the bachelor's degree in humanities and the bachelor of education in science. The University is academically responsible for the academic courses held in the regional colleges at Tel-Hai and Emek Yezrael ("Ohel Sarah"), which are considered as branches of the University academically, although not administratively or financially.

The activity of the University in 1989/90 included the following:

* Instruction

- The Council for Higher Education approved the opening of a doctoral program in the departments of Middle Eastern History and Sociology and Anthropology.

- Preparation for the opening of the Faculty of Law continued - infrastructure for the legal library was set up and recruitment of staff members began.

- The Senate's standing committee approved studies leading to a certificate in musicology, intended to train senior professionals in the field of musicology.

- A new undergraduate degree program will open in 1990/91 that will be operated jointly with the Open University and carried out in regional colleges. This program will be open to all holders of matriculation certificates and will be made up of both University of Haifa courses and Open University courses. Upon completion of two/thirds of the requirements for a degree, students whose academic achievements are acceptable will transfer to the main campus of the University of Haifa to complete the degree there. Students also have the option of completing their degrees at the Open University and receiving the degree from that university.

* Research

- The number of research proposals presented by University researchers to external sources increased significantly over previous years. Many proposals were also presented to the joint Technion - University of Haifa research fund, which was set up in order to strengthen the ties between the two institutions and finances and encourages joint research projects.

- The University established its fellowship program for post- doctoral students in 1989/90. Dozens of researchers have already successfully taken part in this program.

- Inter-university external review committees, including foreign researchers, examined the work of the Institute of Information Processing and Decision Making (IIPDM) and the Institute for Child Development. In both cases the committees noted the high scientific level of the institutes. Additional reveiw committees are planned for next year.

* Administration and Student Services

- A five-day work week and new attendance procedures are in force as of December 1, 1989.

- The Office of the Dean of Students operated a clinical - psychological counselling service for regular and pre-academic students. A service to assist students in dealing with examination stress was also operated.

- The "Bridging the Gap" program for Druze students was expanded.
- An experimental program for student housing was held, whereby students live rent-free in a dormitory in the "Nesher" regional council in return for carrying out cultural and social activities in the community.
- The number of agencies dealing with students in the Student Administrative Division were decreased and a computerized station for the issuing of automated confirmations of studies was established.
- A new visitors' center was opened, serving as a meeting point for visitors to the University and a starting point for guided tours of the campus.
- The IBM 4381/P13 computer was expanded to a 4381/R92 size. A disk was also acquired that increases the storage space of the central computer to 11GG.
- A communications controller with 32 entrances for computers was purchased.
- An on-line library catalogue was partially operated. University teachers may contact the library computer directly for various services through their personal computers.
- In order to improve information retrieval services, bibliographic data bases on compact disc were purchased for interactive information searches.

2.2.6 Ben-Gurion University of the Negev

The academic activity of Ben-Gurion University of the Negev is organized in the following units: the Faculty of Humanities and Social Sciences (including the unit for teacher training); the Faculty of Natural Sciences; the Faculty of Engineering Sciences and the Faculty of Health Sciences.

The following research institutes are also part of the University: "The Institutes for Applied Research" (formerly the Institute for Desert Research); the "Institute for Desert Research" and the "Ben-Gurion Research Center". The last two are located in Sede Boker in accordance with a Government decision, although they are part of the University.

The University is academically responsible for the academic courses in the S. Sapir Regional College of the Negev and the Municipal College of Eilat.

The main academic activities of the University in 1989/90 included:

- Instruction
  - The Faculty of Humanities and Social Sciences began to register doctoral students on an individually advised basis.
  - A master's degree program in biotechnology was approved.
  - An interdisciplinary program in general studies has been set up and will be offered to students of all faculties. The program will be operated on an experimental basis in the first semester of the 1990/91 academic year.
  - Awards for outstanding new students were inaugurated this year. These students represent the top percentile of all new students at the University and have the highest entrance qualifications.
- Research
  - New professorial chairs were established in the following fields: local government, cell classification and cancerous diseases, Middle Eastern archaeology, nuclear engineering, public health and epidemology, genetics, gynecology, and surgery.
  - The Center for the Study of North American Jewry was established at the initiative of the Department of History and the Ben-Gurion Research Center.
- Externally Funded Research
  - The value of externally funded research projects reaches $10 million annually - 52% from foreign sources and 48% from Israeli sources. University researchers continued to develop joint research projects with researchers in developing countries, primarily in the fields of health, agriculture and the utilization of arid zones. Particularly worthy of note is the involvement of University researchers in four "triple-sided" projects with researchers from Egypt and the United States.

- As in previous year, many of the research projects are funded by the bi-national, US-Israel and Germany-Israel, research funds or through bi-national agreements administered by the Minsitry of Science and Technology. The Research and Development Authority continues to emphasize the development of contacts with foreign sources of funding.
  The Research and Development Authority published for the first time a comprehensive research profile on the research activities of all University institutes and departments, with a brief summary of the research, publications and projects of each researcher.

* Administration

  - In the area of administration and organization, personnel were cut back. In the applied research institutes the total number of positions of all types, including researchers, was reduced by 37 by the summer of 1990.

* Physical Development

  - The Joya Claire Sonnenfeldt Auditorium, with 450 seats, was inaugurated.

  - The "Gate of Peace", commemorating the visit to Beer Sheva of the late President of Egypt, Anwar Sadat and the signing of the peace treaty between Israel and Egypt was inaugurated.

  - Construction of the Blaustein International Center for Desert Research is nearing completion.

  - Construction of the western wing of the Humanities and Social Sciences Building has begun. The wing will cover 10,000 sq. meters and will include classrooms, offices and laboratories. The Department of Industrial Engineering and Management will also be located in the new wing.

  - Construction of the new Student Center has begun. The center will house the central cafeteria, student activity rooms, offices, a store and a bank. The building will cover 6,700 square meters.

  - Space for 192 students in the student dormitories is being added. Construction is being accelerated in order to be ready for the 1990/91 academic year. An additional 32 places are being planned. By the beginning of 1990/91 spaces for 140 students in pre-fab units were completed.

* The Institutes for Applied Research

- The Institutes for Applied Research have undergone significant changes recently in directions of research and in personnel and internal organization.
  Research activity in the fields of engineering has almost completely ceased, while scientific and research activity in applied biotechnology is expanding.

- Agricultural activity has been going on for many years. New methods of growing fruits and vegetables have been developed, as well as new methods of drip-irrigration.

- Chemical-industrial research focuses mainly on cooperation with the chemical industry, primarily in the Negev.

- The Institutes have recently set up a "hothouse" for technological development, for the absorption of new immigrant scientists and engineers. The hothouse is operated jointly with industry and the Jewish Agency and is financed by the Ministry for Immigrant Absorption and interested industrial firms.

- The Institutes have attracted many trainees from developing countries who come for advanced training courses. The department for international cooperation of the Ministry of Foreign Affairs assists in these courses.

* The Ben-Gurion Research Center

- The Archives, which are a branch of the State Archives, and the Center's library together form the country's foremost resource for documentation regarding Israel's first Prime Minister, the late David Ben-Gurion (diaries, correspondence, protocols, essays, books, etc.). They form the basis for the research and reference activities of the Center's staff and visitors from other institutions.

- Four books were published, by the Center and other publishers, in 1989/90: one monograph and three collections of essays - proceedings of scienctific conferences held by the Center. Nine more volumes are in preparation.

- Seventeen researchers were employed at the Center in 1989/90. They studied a wide variety of subjects connected with Ben-Gurion and the establishment of the State of Israel, including the mass immigration, Israel's foreign relations during the first decade, Ben-Gurion's security outlook, and the formation of education during the period of mass immigration.

- The Center acquired a new computer in 1989/90: a Sun computer with Oracle software. This system will facilitate the establishment of a computerized data base with options for modern communications with other research centers in Israel and abroad.

- The Center held three conferences and study-days on the following themes: Ben-Gurion and literature, mass immigration or controlled immigration, and vital policy during the Mandate and political prophesy.

* The Jacab Blaustein Institute for Desert Research at Sede Boker

- The Institute for Desert Research is gradually developing into a national inter-university focus for desert research. An inter-institution academic committee has been nurturing this process since 1976. The facilties for cooperation between the Institute and the institutions of higher education in Israel have grown, with the encouragement of the committee. This cooperation takes the form of contacts between researchers, national and international conferences, and courses for students of other universities. The Institute hosts a number of researchers from other universities; four of the Institute's fifteen research units were set up by senior researchers from other Israeli universities.

- As part of the academic development of Ben-Gurion University of the Negev: the Institute's activity in the area of remote sensing has become a university center for this subject; steps were taken toward the establishment of an inter-university center for solar energy research, together with the Weizmann Institute of Science; preliminary preparations are underway for an inter-universtiy center for desert atmosphere research, in cooperation with researchers from the Hebrew University of Jerusalem Faculty of Agriculture and Tel-Aviv University; a center for desert agro-biotechnology has been set up, with researchers from two existing reseach units and from the Salinity and Water Engineering Unit.

* Immigration Absorption

- The University is gearing itself for the absorption of students who have recently immigrated from the Soviet Union in undergraduate and graduate preparatory programs. Preparations have been made to ensure that there will be sufficient space in the student dormitories for the students who are expected to arrive in coming years.

- The University is also preparing for the recruitment of new immigrant staff members.

2.2.7 The Weizmann Institute of Science

The academic departments of the Institute are organized into the following faculties: the Faculty of Mathematical Sciences; the Faculty of Physics; the Faculty of Chemistry; the Faculty of Biophysics-Biochemistry; and the Faculty of Biology.

Since 1958 the Institute has operated the Feinberg Graduate School for students in master's degree and doctoral degree programs in the natural sciences.

A science teaching center at the Institute prepares science curriculum and teaching aids for schools. The "Yeda Research and Development Co. Ltd." was founded in order to promote the commercial exploitation of Institute research.

The Institute is located in the western part of the city of Rehovot.

The academic activities of the Weizmann Institute of Science in 1989/90 included the following:

* Staff

  In 1989/90 eight staff members received promotions or appointments to tenured positions at the rank of associate professor or professor, one of them a new immigrant; seven scientists were promoted or appointed to the rank of senior researcher; and twelve scientists were appointed to the rank of researcher. Approximately 70 post-doctoral researchers stayed at the Institute for varying periods of time in 1989/90. Seven tenured scientists of different ranks retired from the Institute.

* Instruction

  In 1989/90 there were 664 students in the Feinberg Graduate School, 451 of them doctoral students and 213 M.Sc. students. Approximately 100 of the students were foreign students. Many applications were received from the Soviet Union and former Eastern Bloc countries this year. Fifteen new immigrant students have been admitted so far.

* Research

- The Braun Center for Submicron Research, headed by Prof. M. Heiblum, was inaugurated. The center will develop the newest technologies for sub-micron devices, which are an important area of fundamental and applied research.

- The Solar Research Complex is in the advanced "running-in" stage of operation. Research initiatives for the utilization of concentrated solar energy are underway.

- The "MacArthur Foundation" transfered a significant donation for research of tropical diseases. In addition to assistance for research, a workshop was organized, supported by the "MacArthur Foundation", on the subject of mathematical models for tropical diseases.

- A method of increasing wheat yields by chromosomal engineering was developed and is now undergoing testing in the field.

- As part of the international cooperation in research at the CERN (European Center for Nuclear Research) accelerator, new detectors for the measurement of electron-positron pairs were developed.

- A state-of-the-art laboratory for imagery and spectroscopy of nuclear magnetic resonance in biological systems was inaugurated.

- Laboratory experiments on strenthening the immune system of animals as a possible technique for combating cancer were carried out. Research was also done on the mutual relations between the MSH hormone and calcium, as factors causing melanomas.

- A catalytic conductor based on the use of palladium was developed and has potential applications for the chemical industry.

- Research on the subject of the movement of pollutants from the surface of the ground to aquifers continues, as well as research on the behavior of pollutants in the upper part of underground bodies of water.

* Physical Development

- Construction of the Braun Center for Submicron Research, the Goldschleger Life Sciences Library and the Musher Building for Science Teaching continued.
- The scanning tunneling microscope laboratory was upgraded and improved.
- Instruments for coherent control in chemical reactions were purchased.
- An X-ray generator and reflector were purchased and installed.
- A system for the measurement of static and dynamic light diffusion was installed, as was equipment for fluoroscentic imagery.

* Immigrant Absorption

A special committee was set up, headed by the Vice-President, to deal with the absorption of new immigrants. In 1989/90, approximately 35 new immigrants from the Soviet Union joined many of the Institute's departments as academic staff members, students and reseach assistants.

2.2.8 The Open University of Israel

The Open University was established as an experimental project by the Rothschild Foundation, based on a Government decision of August 19, 1973. Instruction began in 1976.

The aim of the Open University is to enable students who could not otherwise do so to acquire higher education by primarily home-based study. In addition to academic courses, the Open University offers general education courses, vocational courses, continuing education courses and pre-academic courses.

In 1973 the Council for Higher Education granted the Open University a permit "to open and maintain an institution of higher education" and in 1980 the Council accredited the University and authorized it to award the bachelor's degree.

Students are eligible for a bachelor's degree upon accumulation of 18 credit points, which is after completion of about 18 academic courses.

Study is conducted by correspondence, assisted by television and radio broadcasts.

* Instruction

- During the 1989/90 academic year 233 academic courses were offered at the University (compared with 203 in the previous year). A further 150 courses are in various stages of development.
- The teaching staff consists of: 123 instruction coordinators responsible for courses that are taught directly from the Open University building; 358 course tutors at study centers throughout the country; and 170 advisors for seminar work.

  Twenty-five staff members have academic appointments from the Open University at the rank of lecturer to full professor.

* Research and Development to Advance Instruction

- Most of the University's efforts are invested in the development and promotion of undergraduate instruction in the main fields of humanities, social sciences, natural and life sciences, and mathematics and computer sciences. Each academic staff member also carries out research in his or her own field of expertise. Staff members who require laboratory facilities in order to carry out research join research teams at the Hebrew University of Jerusalem and Tel-Aviv University.
- A team of staff members is involved in research on "distance learning" which has become a discipline in its own right in recent years. Results of their research are presented at international conferences and published in professional periodicals devoted to "distance learning".

* Physical Development

Expansion of the natural science laboratories continued in 1989/90 and equipment for a new laboratory was purchased.

* Publishing

The Open University produced 75 new study units in 1989/90 and 140 study units were reprinted.

* Plans for the Future

In view of the increase in the number of people seeking admission to universities and public pressure following the rejection of many candidates, the Open University is gearing itself to offer opportunities for study that will be suited to young people after military service. A dual-major accelerated study program is offered at regional colleges (together with other universities) combined with studies at the regional and municipal colleges and weekly tutorials; students in this program can complete their studies in three years.

At the same time, the University is formulating methods for offering combined academic programs at vocational training institutions (teacher training colleges, nursing schools and technological colleges). This will enable students to acquire academic studies without affecting the level of their vocational training.

- **The combined program in regional colleges:** This program was formulated by the chairman of the Council for Higher Education's Subcommittee for Regional Colleges and was approved by the Council. It will be implemented in the 1990/91 and 1991/92 academic years together with: the University of Haifa at the Western Galilee Regional College, the Emek Yezrael Regional College "Ohel Sarah" and the Tel-Hai Rodman Regional College; with Bar-Ilan University at the Alperin Regional College of the Jordan Valley; and with Ben-Gurion University of the Negev at the S. Sapir Regional College of the Negev and the Municipal College of Eilat.

- **Dual major studies:** With the increased number of courses offered by the University, students now have the option of focusing their studies in two subject areas.

- **The bachelor's degree program at Beit Berl Teachers Training College:** In 1990/91 the Open University will inaugurate a bachelor's degree program at the Beit Berl Teachers Training College, functioning as a regional college. Academic courses from the College's Bachelor of Education degree program, which have been examined and approved by the Open University's academic staff, will be offered as part of the program.

- **The bachelor's degree programs at municipal colleges:** The Open University is planning to offer, beginning in 1990/91, a bachelor's degree program at municipal colleges in Tel-Aviv and the central region, where there is a concentration of potential students.

- **Combined bachelor's degree programs at teacher training colleges:** Graduates of this three-year program will be given a "senior teaching certificate" by the college and, after completing additional studies either in a fourth year or in independent study, will be awarded a bachelor's degree from the Open University. This program is already operating in two teacher training colleges and will be expanded to additional colleges next year. Other colleges have also expressed interest in this program.

- **The combined bachelor's degree program at the "Sha'arei Zedek" Hospital School of Nursing:** This program was operated on an experimental basis in 1989/90. A more appropriate program, based on experience gained this year, will be offered in 1990/91.

2.2.9 Bezalel - Academy of Arts and Design, Jerusalem

The Bezalel Academy was founded in Jerusalem in 1906 as an arts and crafts school. It went through many transformations and has operated as an art academy since 1935. In 1973 the Academy received a permit "to open and maintain an institution of higher education", followed by accreditation as an institution of higher education.

The Academy has seven departments that are accredited by the Council for Higher Education: fine arts, graphic design, environmental design, industrial design, ceramic design, gold- and silversmithing, and photography. The Academy is authorized to award the degrees "Bachelor of Fine Arts" or "Bachelor of Design" in these departments.

The Academy still lacks its own campus and its departments are spread out in different locations in Jerusalem. The departments will be brought together gradually on the campus that is under construction on Mt. Scopus. In 1986 the first departments moved to a building that was acquired from the Hebrew University of Jerusalem and adapted to the purposes of the Academy.

* Instruction

- The Council for Higher Education approved the admission of new students to the Department of Photography in every academic year rather than every other year as before. The Department now operates on a full four-year basis as do all other departments of the Academy.

- The Academy's Senate decided to include the Video Unit in the Department of Photography. The Unit will continue its existing activity as an inter-departmental unit but will be considered part of the Department of Photography for administrative purposes.

- During Passover vacation the Department of Environmental Design held a number of short workshops lead by some of the country's best architects. Most of the workshops were held in Tel-Aviv and were devoted to subjects connected with the preserved buildings and sites in that city.

- The renowned German artist Anselm Kieffer, recipient of the Wolff Prize, visited the Academy's Department of Fine Arts, examined students' work and lead a general discussion with students in the department in which he expounded on his world view, the state of the arts in Germany, the Jewish element in art as seen by a German, etc.

* Events

- The Academy organized a number of exhibitions during the year, including a comprehensive exhibit of works from the departments of ceramic design, gold- and silversmithing and photography, at the National Academy of Art in Toronto, Canada. An exhibit of the works of Bezalel graduates from the past decade was held at the new building on Mt. Scopus, as part of the celebrations to mark the opening of the new campus.

- In June 1990 the Board of Governers convened for their annual meeting, which was devoted to the dedication of the Swig Building on Mt. Scopus.
  During the Summer recess all departments and units moved to the new building. Begining in 1990/91, for the first time in thirty years, all Bezalel units will be located under one roof.

- A graduate of Bezalel's Department of Industrial Design, Yair Rosenberg, won the Israel Museum Design Prize for 1990 for the design of the cockpit of the "Lavie" airplane.

- The honorary degree "Worthy of Bezalel" was awarded this year to the Italian architect Bruno Zvi and the artist Zohara Schatz, daughter of Boris Schatz, the founder of Bezalel.

2.2.10 The Jerusalem Rubin Academy of Music and Art

The Academy of Music was founded in Jerusalem in 1947. In 1971 it received a permit "to open and maintain an institution of higher education" and in 1974 was accredited and authorized to award the degree "Bachelor of Music". The Academy's departments are: performing arts (keyboard, stringed instruments, wind instruments, percussion and voice development), dance and movement, and composition, conducting and theory. The Academy also offers a program for the training of music teachers which awards the degree "Bachelor of Music Education".

In addition to the bachelor's degree, the Academy also offers a "Artist Diploma" upon completion of an additional two years of study.

The Academy operates a joint program with the Hebrew University of Jerusalem leading to the degrees "Bachelor of Arts" in music and "Master of Arts" in music.

For many years the Academy was located in the center of Jerusalem, together with the Conservatory and the Academy Secondary School. In the begining of 1985/86 it moved to a building on Givat Ram that was purchased from the Hebrew University of Jerusalem and adapted to the Academy's needs.

* Instruction

- During the 1989/90 academic year a number of changes in curricula were proposed and implemented, in order to raise the level of study. The Academy implemented new methods of instruction and strengthened the use of computers for instruction. Special seminars, study-days and workshops for ensembles were held. Competitions of performance were held in all departments as part of the Academy's "Open Days". Extra-curricular activities in academic areas and proficiency were also held. A number of inter-semestral courses lead by guest artists were offered.

- The Council for Higher Education approved a change in the name of the degree awarded to graduates of the Academy's Department of Dance; it is now "Bachelor of Dance" (B. Dance).

- Approximately twenty students who are new immigrants from the Soviet Union were admitted to the Academy during 1989/90. Dozens of new immigrant music students have auditioned for admission to the Academy in 1990/91.

- **Academic Staff**

  - Internationally renowned artists and guest teachers visited and taught, both theoretical and proficiency classes, at the Academy during 1989/90 for short periods, a semester or for summer courses and master classes.

  - Ties between the Academy and comparable institutions abroad, especially Eastern European, were strengthened. Professors from well known academies came to the Academy as guest teachers.

  - A number of new immigrants from the Soviet Union, recognized artists in their fields, joined the Academy's staff. Additional immigrants will join the staff in the 1990/91 academic year.

  - Senior teachers at the Academy have been invited to be "artists in residence", as is common in music institutions abroad.

- **Preparations and Plans for the Future**

  - New aims and directions for development were defined according to the needs and requirements of higher education in the arts in coming years, taking into consideration the wave of immigration from the Soviet Union. The Academy will continue to expand its readiness for the absorption of new immigrant musicians and will hold special training programs for them. Emphasis will be placed on performance and creative workshops in music and dance. Inter-departmental cooperation will be augmented and extra-curricular activities will be expanded in the areas of chamber music and performing groups, together with the Academy's daughter-institutions.

    The strengthening of ties with foreign music academies will continue, with famous guest teachers from abroad coming to teach master classes and seminars in 1990/91.

- **Physical Development**

  The Academy has acquired modern teaching aids and has expanded its selection of high-quality musical instruments. The electro-acoustic laboratory was developed and equiped in order to facilitate acoustic-musical research and searching. A Macintosh computer was acquired for the electro-acoustic laboratory. The use of computers by the Academy's secretariat was improved.

2.2.11 Jerusalem College of Technology

The College was founded in Jerusalem in 1970 as an institution that would combine advanced religious studies together with academic technological studies. Its aim is to train technolgists and technicians, with an emphasis on applied training, from among the religious population.

Jerusalem College of Technology is authorized to award the degree "Bachelor of Technology and Applied Science" to graduates of the departments of physics/electro-optics, electronics and computer sciences.

The College is located on a new purposed-designed campus in western Jerusalem.

* Instruction

  - During 1989/90 the College opened a dual-purpose pre-academic preparatory course: a program for demobilized soldiers and a program for new immigrants. Most of those who studied in the program for new immigrants were admitted to the College for the 1990/91 academic year.

  - A laboratory for the self-instruction of Hebrew and English, with ten computer stations was acquired. It was successfully operated in the pre-academic courses in 1989/90 and will be available to first-year students as an aid for the study of English in 1990/91.

  - With the dedication of the "Braus Center", the religious seminary moved to its new location, with six additional classrooms.
    The new technological library, which will be located in the former seminary, will hold 25,000 books and will provide extensive information services for students, staff and high-tech industries in Jerusalem.

* Funded Research and Development

  - The construction of a "clean room" for the technology of surface processing, including a diffusion oven, was completed. This laboratory will facilitate additional advances in the development of high- efficiency solar cells and the continued development of micro-lenses.

  - A number of research grants that were obtained in 1989/90 facilitated the expansion of research in different areas of medical physics - digital and optical image-processing for the histo-morphology of bones, computerized mamography and osteoporosis.

- The center for driving studies completed a research project that examined the reaction time for braking in various emergency situations. A project to be carried out jointly with the Government of Costa Rica for the reduction of accident casualties was approved. It will be financed by the US Internatinal Cooperation Agency.

- Development of the "Marom" system for measurement of vehicle clearance and speed continued and world-wide marketing of the system began, financed by investors. Development of the proto-type of a computerized system for the prevention of car theft was completed.
  All research projects are carried out according to externally funded contracts.

* Administration

- The ITEX plan for the exchange of information between academic institutions and industry through the use of computerized communication was expanded. This plan can also be applied for the transfer of processed data on new immigrant scientists and technicians who are seeking employment.

- The hothouse for high-tech industrial initiatives began to operate, with four firms now active on campus.

- A number of events were held to mark the twentieth anniversary of Jerusalem College of Technology.

2.2.12 Shenkar College of Textile Technology and Fashion

The College was founded in 1970 at the initiative of the Association of Manufacturers and the Ministry of Industry and Trade in order to train high level professionals for the textile and fashion industries. The College received a permit "to open and maintain an institution of higher education" in 1976 and in 1979 it was accredited and authorized (gradually) to award the bachelor's degree.

The College is authorized to award the bachelor's degree in the following programs: textile technology, textile chemistry, textile design, fashion design, and industrial management. The College also has two-year programs for the training of technicians.

The College is located in the city of Ramat-Gan.

* Instruction

- The number of students taking part in combined work/study programs abroad is increasing. A group of students specializing in knitting technology went to Germany on a study tour. Third year fashion design students went to Paris on a study tour that included visits to factories and showrooms of famous designers.

- The Steering Committee drew up a special combined program for students who immigrated from the Soviet Union. The program is designed to make the best possible use of the students' time and to involve them as much as possible, and as soon as possible, in the regular program of studies for Israeli students.

* Academic Staff

In addition to the permanent staff and Israeli part-time teachers and instructors, the College invited professionals from abroad to come as guest lecturers for short periods of time on specific topics, such as design, management, marketing and textile technology.

* Funded Research and Development

- Applied research projects are carried out in the areas of thermal protection, insulation and noise control, the use of high-strength fibers, etc.

- Research and development of aids and clothing for the disabled, including the elderly and children who are physically limited, has expanded. Some of the products that have reached the stage of market research are: an aid for raising and dressing patients with muscular dystrophy and disposable absorbent bibs for children with Down's Syndrome.

- The textile and costume archive is expanding thanks to donations of material and clothing from Israel and abroad. Cataloging of the collection is nearing completion. A computer program, largely developed at Shenkar, was designed for this purpose and is one of the most advanced of its kind in the world.

* Physical Development

The new library is open to Shenkar students and staff and readers from the textile and clothing industries. Another fully equipped computer room and a multi-purpose classroom take the place of the old library. A CAD computer for design has been ordered and will be on-line shortly.

3

PLANNING, NEW UNITS AND INFORMATION

3.1
Planning

The PBC is involved with long-term planning of the higher education system as well as current issues having planning aspects.

The PBC advises the Council for Higher Education before the Council reaches decisions on the granting of permits "to open and maintain an institution of higher education" and accreditation and/or authorization to award academic degrees of new institutions, new fields or new units. The PBC is obliged to present its considered opinion on the need for the new institution or unit and its financial significance.
In 1989/90 the PBC continued its activity in general and specific subjects in accordance with the recommendations and conclusions of its "green paper" on planning ("The Higher Education System in Israel: Guidelines for the Development of the System and its Planning for 1988 with a First Glance at 1995", published in 1983).

Special attention was paid to the long-term plans that the institutions were asked to prepare as part of discusions on budgetary matters.

In addition to current issues, in 1989/90 the PBC dealt with two main planning issues: the preparations of the higher education system for the wave of immigration reaching Israel; and reactions to public criticism on access to undergraduate programs, particularly the scope of admissions to programs in law.

3.1.1 The Wave of Immigration

During 1989/90 the PBC held a number of discussions on this subject, although the uncertainty that prevailed made it difficult to take positions or prepare detailed plans.

The wave of immigration from the Soviet Union brings to Israel many scientists who were employed at institutions of higher education or research institutes. There are also many students who stopped their studies at various stages, as well as young people who are interested in commencing academic study.

Those responsible for dealing with immigration in Israel estimate that of 100,000 immigrants, approximately 2,000 will define themselves as scientists. A population of 100,000 includes about 7,000 young people in the relevant age group for higher education (18 to 25), of whom about 4,000 might be interested in studying at various levels in the higher education system.

In view of the size of the higher education system in Israel, which has about 5,000 senior academic staff members (at the rank of lecturer or above), the PBC came to the conclusion that only a small percentage of the scientists who will arrive in Israel will be able to join the senior academic staff in the higher education system. Employment for many of them will have to be found in the industrial sector of the economy; most of the immigrant scientists were employed in their home countries in applied research institutes and did not teach in institutions of higher education. According to the PBC, the higher education system's contribution to the absorption of immigrant scientists and other academics will probably be in the provision of retraining programs, including courses intended to bring scientists up to date on developments in the West and to adapt them to Israeli systems.

The PBC is focusing its attention on the absorption of new immigrant students and its ramifications for planning and budgeting.

The PBC's basic premise is that all qualified applicants, in all fields and at all levels, should be admitted and provisions should be made for preparing these potential students in appropriate preparatory programs. Furthermore, the PBC has determined that the absorption of new immigrant students must not affect the admission of veteran Israeli students, that is - the thresholds for admission to the various faculties must not be altered. Instruction in the institutions of higer education, at all levels and in all fields (excluding medicine) will be expanded. This will necessitate an expansion of infrastructure, including academic staffs (thus providing for the absorption of some new immigrant scientists from the USSR, as well as veteran Israeli researchers or new immigrants from other countries) and technical and administrative staffs, as well as physical infrastructure. Those universities that are capable of increasing student numbers immediately without additional resources, or with only slight additions, should be utilized first.

As a first step, the PBC held in March 1990 a discussion of the issue with representatives of all the institutions of higher education and the Student Authority of the Ministry of Immigrant Absorption. The PBC presented its preliminary positions and the representatives of the institutions outlined the preparations they were making to cope with the absorption of new immigrant students.

Following this discussion the PBC requested each institution to present a long-term plan for the absorption of students and the budgets necessary for implementation of the plan. The PBC will evaluate and analyse the plans and will then present an overall plan of action as well as its position on the distribution of new students in the various institutions. The PBC will detail the budgetary projections of the plan to the Ministry of Finance.

As an immediate solution to pressing problems, NIS 16.5 million were made available to the PBC, NIS 7.5 million of them from the Administrator-General's Office. The PBC requested the institutions of higher education to prepare emergency plans for immediate expansion. The intention was to expand physical infrastructure - classrooms and instructional facilities (also for the preparatory courses for immigrants) as well as places in student dormitories.

The PBC estimates that the increase in student numbers will begin to be significant in the 1991/92 academic year, since in 1989/90 and 1990/91 most of the new immigrants will be studying in various preparatory programs.

3.1.2 Undergraduate Studies

As was reported in previous reports of the PBC (Nos. 14, 15 and 16), the PBC and the Council for Higher Education both held fundamental discussions on this subject and came to various conclusions and recommendations for the universities. During 1989/91 public debate on the difficulties of gaining admission to undergraduate study in professional fields, especially law, increased (a more detailed review will be found below, in Sect. 3.2.1.1). Several Members of Knesset raised the issue in the Knesset and proposed legislation to deal with the problem. The PBC had to defend its position at a number of sessions of the Knesset Education and Culture Committee (also detailed below). In view of the public interest in the subject as well as its connection to the issue of immigration, the PBC recommended that the Council for Higher Education examine the possibilites for increasing and diversifying the opportunities for undergraduate study.

The Council accepted the PBC`s recommendation and at the end of the 1989/90 academic year appointed a special subcommittee to examine the responses of the institutions of higher education to the Council's decision of January 11, 1989 that asked them to take measures to ensure that all qualified students be admitted, to direct them to appropriate courses and to reduce the "drop-out" rate.

The subcommittee was also asked to evaluate ways of encouraging "open bridges" between the various education systems, so that suitable graduates of post-secondary vocational colleges can complete the requirements for a bachelor's degree in a university (this is in addition to the activities of the Open University in post-secondary vocational colleges). The subcommittee will also determine if additional institutions of higher education for specific fields at the undergraduate level should be accredited (to award the degree "Bachelor of Technology"), either in association with universities or independent of them.

The subcommittee is expected to complete its work early in 1990/91.

3.1.3 Subject Reviews

The PBC has decided to conduct occasional reviews of subjects or organizational frameworks that are in need of up-dating, modifications or development. These reviews will be carried out by sub-committees of the PBC and their recommendations will assist the PBC in determining priorities and long-range planning within the confines of the limited resources available to it. The subjects that were reviewed in 1989/90 are:

3.1.3.1 Education - The committee, which was appointed in 1986/87, presented its recommendations in 1988/89.

The PBC's 16th annual report detailed the committee's recommendations and the PBC's discussions of them. The PBC's conclusions regarding the budgetary allocations for the schools of education were as follows:

- Beginning with the 1990/91 academic year the PBC will give a lesser relative weight to undergraduate programs in education that do not include teacher training than it gives to the humanities and social sciences. Master's and doctoral programs in education will receive the same relative weight as similar programs in the humanities and social sciences. Programs leading to teaching certificates will receive the same relative weight as master's degree programs in the humanities and social sciences.

- A decrease in the relative weight given to general undergraduate programs in education should result in a decrease in the PBC's global allocation to the university. However, in view of the review committee's opinion that there is justification for not cutting allocations to education in general if the schools of education increase their contribution to subjects and areas mentioned in the report and if they cooperate among themselves, the PBC decided to set aside the amount of the decrease and to direct it to financing specific programs for implementation of the committee's recommendations.

- These programs will be of two types:
  a) proposals to open new areas of research and instruction or to redirect existing areas, if presented unanimously by all six schools of education in order to apportion areas of specialization and work between themselves;
  b) proposals to raise the standard of teacher training programs and to strengthen their appeal, as detailed in the committee's report.

The PBC also decided the following:

a) When determining special allocations to libraries, the PBC will pay special attention to education libraries;

b) The PBC will hold a discussion on the connections between university schools of education and academic programs in teacher training colleges (authorized to award the degree of "Bachelor of Education") after the Council for Higher Education's Permanent Committee for Academic Programs in Institutions for the Training of Teachers presents its report on the activities of these programs.

The PBC informed the rectors and heads of the schools of education of its decisions and invited them to discuss the decisions. As a result of these discussions the heads of the schools of education decided to set up an inter-university committee, headed by a rector and composed of the heads of the schools of education and other members, to discuss the review committee's report and conclusions and the PBC's decisions. The PBC made it clear that if during the 1989/90 academic year the inter-university committee would present a set of recommendations that refer to the whole range of issues brought up by the review committee in its report, then the PBC would re-examine its decisions. Members of the Council for Higher Education requested that this issue be brought before the Council, but the discussion was postponed until the inter-university committee presents its decisions.

In April 1990 the inter-university committee presented a detailed memorandum setting out its position on the recommendations and issues raised by the examining committee as well as the PBC's decisions on the subject.

According to the memorandum, the inter-university committee accepted the review committee's stand on the need to give priority to teacher training within the framework of the schools of education, as far as the allocation of human and financial resources and organizatinal status is concerned. However, the review committee's stand on the nature of the undergraduate degree in education that doesn't involve training for teaching was rejected. The inter-university committee determined that the bachelor of arts degree in education does have a role, inter alia as a source of training for students who study for the master's degree in education. Curtailment of the bachelor of arts degree program in education might obstruct the development of the science of education and the practice of education and prevent the growth of a reserve of researchers and experts in education. The committee also stated that there is a need for coordination between schools of education in each one's special fields.

The PBC discussed the inter-university committee's memorandum at the end of the 1989/90 academic year and decided to bring the review committee's report before the Council of Higher Education together with the memorandum. Implementation of the PBC's decisions regarding allocation of resources to schools of education would be postponed until the beginning of 1990/91. At the beginning of the 1990/91 academic year the PBC in fact decided to continue to implement for a further two years its previous decision regarding the equality, for budgetary puposes, of master's degree programs in education and programs leading to a teaching certificate; during the same period it will freeze its decision calling for reduced "weight" in budgetary terms to be given to bachelor's degree programs in education that do not include training as teachers. The PBC will discuss this subject again in two years and will then determine its policy. The Council was informed of the PBC's decisions and reasoning.

3.1.3.2 The Life Sciences - The review of the life sciences will be conducted in stages. The first stage will be a mapping of all activities in the life sciences in all frameworks (faculties of biology, medicine, agriculture, and also in faculties such as social sciences, engineering, etc.) and their analysis from different aspects such as staff, equipment, and plans for the development or curtailment of programs. A committee was appointed at the end of 1987/88 to conduct this stage of the review, which will serve as the basis for the work of the examining committee. The examining committee will be composed of internationally known scholars and will determine an institutional and inter-institutional grading scale and will make recommendations as to priorities.

In 1988/89 the committee prepared two types of questionnaire for the mapping of activities in the life sciences: a general questionnaire intended for rectors and deans with questions regarding development plans and policy, and a more detailed questionnaire intended for department and unit heads with requests for information on staff and their activities, research activities (as evidenced in research contracts and grants and cooperation between researchers), teaching activity (as shown by the number of courses taught, the number of hours taught, number of students, etc.) and the scientific equipment available to the unit or department. Questionnaires were sent out and the replies, which were received in the middle of the 1989/90 academic year, were classified and processed by the end of the year. The committee will discuss the results of the survey early in 1990/91.

3.1.3 Visits to Institutions

Each year the PBC visits a number of institutions of higher education. The purpose of these visits is to gain an overall impression of the institution's activities, especially academic development, which serves as the background to a discussion of the institution's specific problems. Prior to each visit the institution presents background material and the PBC holds a preliminary discussion. Following the visit the PBC holds a summary discussion.

In 1989/90 the PBC visited Ben-Gurion University of the Negev.

3.2
New Academic Units and Closure of Units

According to agreed-upon procedures, the institutions of higher education must notify the PBC of their plans to open any new academic unit or to carry out changes in any existing unit, including closures. The PBC must advise the Council for Higher Education on all new units proposed, the financial significance of the unit and its place in the general plan for higher education, all with a view to preventing unnecessary duplication.

The Council for Higher Education has authorized the PBC to decide which new units require a thorough examination and the approval of the Council and which do not require approval. When an examination and approval by the Council are not required, the PBC is authorized to inform the institution and the Council of the new unit.

3.2.1 New Academic Units Discussed by the PBC in 1989/90

In 1989/90 the PBC discussed the financial and planning aspects of the following proposals to open new units and presented its opinion to the Council for Higher Education:

3.2.1.1 Law: The PBC has opposed proposals that would allow two unequal systems of higher education to exist side by side: a faculty of law charging the same tuition fees charged by all universities and paying its staff the wages dictated by the State budget and, alongside it, a private law school charging higher tuition fees than those charged by the universities. The PBC has warned that such an arrangement might be adopted for other fields of study and could harm the higher education system.

The PBC is of the opinion that the solutions to the problem of the huge demand for admission to study law are: increasing the number of places for study in the existing faculties of law and opening an additional faculty at the University of Haifa, and perhaps in the Open University as well. Another possibility should also be examined - adopting the practice that is common in many western countries whereby an academic degree, not necessarily in law, is required of all potential attorneys while the professional training, examinations and licensing are the responsibility of the licensing body (i.e. - the Bar Association) or the universities that teach the subject.

Despite the positions of the Council for Higher Education and the PBC, on March 28, 1990 the Knesset approved an amendment to the Bar Association Law. This amendment enables graduates of non-academic law schools accredited either by the Bar Association or universities that have faculties of law to practice law.

As a result of this amendment private law schools were opened by Tel-Aviv University, Bar-Ilan University and the College of Management. These schools do not offer bachelor's degrees and have confirmed the PBC's fears as to the possible repercussions of this amendment to the law.

The Council for Higher Education has insisted on a clear practical, administrative and physical separation between the non-academic law schools authorized by the amendment to the Bar Association Law of March 28, 1991, and the university faculties of law that offer a bachelor's degree in law. This separation is necessary so as not to mislead the public and to uphold the level of the existing faculties of law. The Council also supported the efforts of the universities to increase the number of students admitted to the faculties of law, while strictly maintaining the standards of the academic studies. In line with the Council's policy, the PBC approved special earmarked allocations to the Hebrew University of Jerusalem and Bar-Ilan Unviersity which were preparing to increase the number of law students in their faculties of law.

The PBC also offered assistance in recruiting additional academic staff members to the faculties of law. During 1989/90, and in accordance with the Council's decision of July 1989 permitting the University of Haifa to prepare for the opening of a faculty of law, there was continued activity on behalf of the opening of additional faculties of law.
Both the University of Haifa and the Open University continued their preparations during 1989/90 and presented plans for the opening of legal studies; these plans will be discussed by the Council for Higher Education during 1990/91.

3.2.2 New Academic Units Approved

The PBC authorized the opening of the following new academic units in 1989/90 after it decided that they do not require approval by the Council for Higher Education:

The Technion
- a master's degree program in construction in the Faculty of Civil Engineering;
- a master's degree program in biotechnology;
- a department of bio-medical engineering.

Tel-Aviv University
- reorganization of the Department of French Culture;
- organizational changes in the School of Allied Health Sciences in the Faculty of Medicine.

Bar-Ilan University
- a master's degree specialization track in composing and advanced theory in the Department of Musicology;
- a master's degree specialization track in statistics in the Department of Mathematics and Computer Sciences;
- a certification program for officers in the Prison Service;
- a study program in logistics;
- an academic course in the Judea and Samaria Regional College (for which Bar-Ilan University is academically responsible).

Ben-Gurion University of the Negev
- a study unit in personnel management.

3.3
Information

The methodical collection, processing and analysis of statistical data are an important part of the day-to-day activities of the PBC - for planning and budgeting as well as determining policies in matters connected to higher education. During 1989/90 efforts were made to sort out the relevant existing data on the higher education system in Israel and locate data that is lacking. This is the first stage in the formation of a data base for the PBC which will allow for the integration and analysis of data of different types and from different sources on input, the process of studies and output of higher education in Israel. A set of performance indicators of various aspects of higher education is also being drawn up.

The following activities connected to statistical data and indicators were carried out during 1989/90:

3.3.1 Data Collection and Processing by the Central Bureau of Statistics

The PBC commissions the Central Bureau of Statistics to collect and process most of the data on higher education in Israel. Every year statistical reports are published on candidates, students, and recipients of degrees in the universities and non-university institutions of higher education.

A new series of publications dealing with the progress of studies of university students is being planned. This series will provide data on the duration of studies until their completion, drop-out, changing of majors, etc. The first publication in this series is due to appear in 1990/91.

The Central Bureau of Statistics collects other data relevant to the planning of higher education, such as: data on the educational level of the population; the scope and fields of study in secondary schools; recipients of matriculation certificates; the number of academics in the population; manpower characteristics, including education and employment; and research activities and research manpower.

The following reports were published in 1989/90:

1. **Candidates for First Degree Studies in Universities 1988/89.** Series of Education and Culture Statistics no. 187, reprinted from the Supplement to the Monthly Bulletin of Statistics, no. 7, 1990;

2. **Students in Universities and other Institutions of Higher Education 1988/89.** Series of Education and Culture Statistics no. 188, reprinted from the Supplement of the Monthly Bulletin of Statistics, no. 8, 1990;
3. **Recipients of Degrees from Universities 1988/89.** Series of Education and Culture Statistics no. 189, reprinted from the Supplement of the Monthly Bulletin of Statistics, no. 9, 1990;
4. **Demographic Characteristics of Recipients of Degrees from Universities 1988/89.** Series of Education and Culture Statistics no. 190, reprinted from the Supplement of the Monthly Bulletin of Statistics, no. 5, 1990.
5. **Demographic Characteristics of Students in Universities 1988/89.** Series of Education and Culture Statistics no. 191, reprinted from the Supplement of the Monthly Bulletin of Statistics, no. 6, 1990.
6. **Inputs in Research and Development in Universities 1986/87** Central Bureau of Statistics, Special Series.

The following publications are in preparation:
1. **Candidates for First Degree Studies in Universities, 1989/90;**
2. **Students in Universities and Other Institutons of Higher Education, 1989/90;**
3. **Recipients of Degrees from Universities and other Institutions of Higher Education, 1989/90;**
4. **The Progress of Studies of University Students**

Data on higher education and other relevant data such as recipients of matriculation certificates and the study habits of twelfth-graders are published in the "Education and Culture" chapter in the Statistical Yearbook and in other publications of the Central Bureau of Statistics.

3.3.2 Data on Manpower in the Universities

The PBC strives to improve its and the universities' achievements in the swift and precise processing of data on manpower in the universities.

The PBC commissioned extensive surveys on manpower in the universities for the years 1978/79 and 1981/82. Since 1982/83 the PBC staff have carried out smaller-scaled surveys based on data supplied directly by the universities. These surveys present a detailed picture of the situation of the academic, administrative and technical manpower in the universities and its break-down according to wage-grade scales and source of funding. Results appear in PBC publications (See Appendices 11 and 12).

The PBC hopes that in the future the universities themselves will process the "raw data" and will forward the results to the PBC at regular intervals and in a standard format. This will enable the PBC to set up a reliable data-base in this field, for more efficient budgeting as well as for statistical purposes.

4

THE HIGHER EDUCATION BUDGET

The higher education budget includes the PBC's allocations to the institutions of higher education (direct allocations to ordinary budgets and special allocations), allocations for development, and the PBC's administrative budget.

4.1

PBC Allocations to the Higher Education System

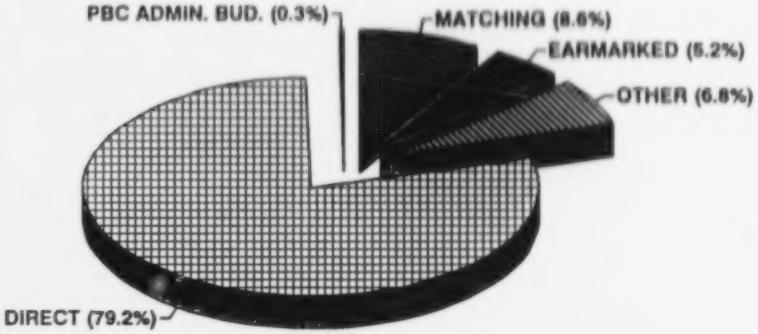
One of the functions of the PBC, as set forth in its terms of reference, is to submit budget proposals for higher education to the Government and to allocate the global budget to the institutions of higher education after it is approved by the Knesset.

According to the Council for Higher Education Law, the institutions of higher education are at liberty to conduct their academic and administrative affairs autonomously, within the limitations of their approved budgets. The authorities in each institution approve the budget only after the heads of the institution have discussed and finalized it with the PBC.

Total PBC allocations in 1989/90, excluding the development budget, amounted to NIS 845,443,600, according to implementation. It should be noted that in 1989/90 the PBC's allocations increased, in real terms, by approximately 10% compared with 1988/89. (Not including the PBC's one-time allocations for reducing the institutions' loans).

The largest portion of the higher education budget is allocated in the form of direct global allocations to the institutions of higher education. The remainder is allocated for special subjects and for activities connected with research and academic development.

PBC ALLOCATIONS TO ORDINARY BUDGETS



PBC Allocations to Ordinary Budgets - 1989/90
In NIS Thousands and as Percentage of Total Allocations

Total	845,443.6	100%
Direct allocations to the institutions of higher education (1)	669,415.2	79.2%
Matching allocations to endowment funds	72,650.4	8.6%
Earmarked allocations for research and special subjects (1)	43,618.0	5.2%
Other allocations (2)	57,125.0	6.8%
PBC's administrative budget (3)	2,635.0	0.3%

(1) Includes allocations for research, earmarked allocations and inter-university activities (budget sections 3, 4, and 5).

(2) Includes special obligations, aid to students, miscellaneous subjects and budgetary transfers (budget sections 6, 7, 8, 10, and 11).

(3) The PBC's administrative budget is a separate budget section which is not part of the higher education budget.

Details of PBC Allocations to Ordinary Budgets
(NIS Thousands, Current Prices)

	1988/89	1989/90
Total	729,967.2	845,443.6
1 Direct Allocations	543,460.0	669,415.2
1.1 Universities	486,310.0	572,310.0
1.2 Universities - long-term plan	40,790.0	77,601.5
1.3 Non-university institutions **	16,360.0	19,503.7
2 Matching Allocations	59,919.4	72,650.4
2.1 Universities	59,686.1	72,257.4
2.2 Non-university institutions	233.3	393.0
3 Allocations for Research	19,884.4	25,239.0
3.1 Yigal Allon Fellowships	3,164.4	3,231.0
3.2 Scientific equipment	2,036.0	-
3.3 Basic Research Fund*	10,000.0	15,070.0
3.4 Joint PBC - Ministry of Defense Research Fund*	1,540.0	1,000.0
3.5 Joint Atomic Energy Commission - PBC Research Fund*	804.0	894.0
3.6 USA-Israel Education Foundation*	28.0	30.0
3.7 Research fund for electronics, computers and communication*	200.0	-
3.8 Scientific equipment for inter-university use	2,000.0	4,140.0
3.9 Research fellowships in the humanities and social sciences	112.0	224.0
3.10 Research grants for young staff	-	650.0
4 Earmarked Allocations	9,665.0	14,604.0
4.1 Computer centers	1,700.0	2,448.0
4.2 Purchase of books & periodicals	4,965.0	9,060.0
4.3 Special program in electronics at Tel-Aviv University	3,000.0	3,096.0
5 Inter-University Cooperation	2,764.2	3,775.0
5.1 Inter-Univ. Computing Center	750.0	845.0
5.2 Inter-library cooperation and "Aleph" program	644.2	610.0
5.3 Inter-University Center in Eilat	1,370.0	1,590.0
5.4 Super-computers	-	730.0

- Continued on Next Page -

	1988/89	1989/90
6 Aid to Students	12,973.0	19,550.0
6.1 Tutorial Project scholarships*	8,966.8	14,200.0
6.2 Students Loan Fund*	4,006.2	5,350.0
7 Other Subjects	11,016.5	11,887.7
7.1 Pre-academic preparatory courses	3,348.9	4,669.1
7.2 Academic programs in regional colleges	316.0	360.0
7.3 Teaching of accountancy	131.3	179.5
7.4 Tax refund - Open University	2,764.3	3,647.7
7.5 Israeli Academic Center in Cairo*	400.0	584.1
7.6 Clinical appointments in peripheral hospitals	366.1	391.1
7.7 Special allocation to Ben-Gurion University of the Negev	191.5	-
7.8 Data and guidance system for students*	300.0	245.0
7.9 Miscellaneous allocations	3,198.4	1,811.2
8 Reduction of Loans	58,600.0	15,200.0
9 PBC's Administrative Budget	2,150.0	2,635.0
10 Israel Academy of Sciences and Humanities	1,186.0	1,555.0
11 Budgetary Transfers	8,348.7	8,932.3
11.1 Hadassah Medical Organization - medical research*	7,392.0	8,310.0
11.2 Participation by Government Ministries	956.7	622.3

* Allocations not transferred directly to the universities.

** Includes an allocation to the Ruppin Inst. of Agriculture amounting to NIS 190,000 in 1988/89 and NIS 215,000 in 1889/90.

4.2
The Ordinary Budget

Activities in the institutions of higher education can be classified according to three budgetary types:

- the ordinary budget - for current activity in teaching and research;
- closed budgets, mostly financed from outside sources, for research and special study programs;
- the development budget.

Most expenditures of the institutions of higher education are included in the ordinary budget: wages, purchase of scientific equipment, books, periodicals, materials and expendables, routine maintenance, renovations, aid to students, etc.

The PBC approves the budgetary outlines of the institutions of higher education as a condition for participation in their budgets. Approved outlines for the ordinary budgets of the institutions in 1989/90 amounted to NIS 1,316,947,400. Two-year budgetary outlines for 1988/89-1989/90 were concluded with most of the institutions. These were made possible due to agreements with the Ministry of Finance regarding long-term State allocations.

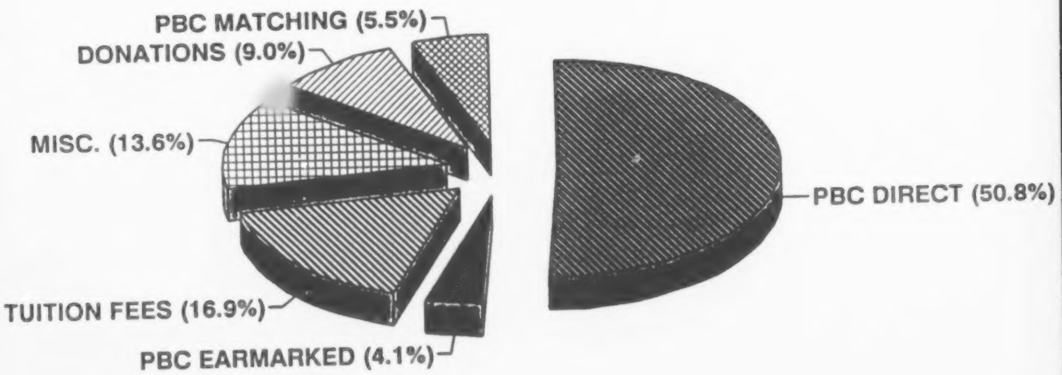
The components of the ordinary budgets of the institutions of higher education are presented in the following tables:

Income of All Institutions of Higher Education Included in the Ordinary Budget 1989/90[1] and Distribution According to Source (NIS Thousands)

Total Income	1,316,947.4	100%
Direct PBC allocations (2)	669,200.0	50.8%
PBC matching allocations to endowment funds	72,650.4	5.5%
PBC earmarked allocations for research and other subjects (3)	54,058.0	4.1%
Income from tuition fees	223,090.0	16.9%
Income from donations	119,020.0	9.0%
Miscellaneous income	178,929.0	13.6%

1 Universities and non-university institutions of higher education. Excluding the Ruppin Institute of Agriculture.
2 Earmarked allocations for electronics, computers and research bonuses are included in the direct allocations.
3 Including earmarked allocations for research and other earmarked allocations, inter-university cooperation and other subjects.

SOURCES OF INCOME



The Ordinary Budget of the Universities - 1988/89 - Implementation, and 1989/90 - Budget

(NIS Thousands, at Current Prices)

	Total Expenditures	Income						
		PBC Allocations		Income From Donations	Income From Student Fees	Other Income	Transferred to Other Budgets	Total Income
		Direct	Earmarked (3) (4)					
1988/89 (1) Total	1,100,966	527,187	148,461	113,778	177,066	168,256	(50,304)	1,129,780
Hebrew University	285,750	144,970	42,895	53,010	38,763	18,406	(19,694)	298,044
Technion	176,292	100,500	23,696	12,802	18,400	24,974	(14,086)	180,372
Tel-Aviv University	238,034	110,290	32,604	8,252	54,280	41,367	(1,113)	245,680
Bar-Ilan University	87,456	45,510	8,862	1,503	19,663	13,191	-	88,729
University of Haifa	56,268	24,220	7,287	2 605	15,976	20,336	(11,556)	70,424
Ben-Gurion Univ.	98,060	48,270	13,276	10,500	14,820	13,574	(2,476)	97,964
Weizmann Institute	131,926	45,820	19,666	23,900	0	33,410	(1,379)	121,417
Open University (6)	27,180	7,607	175	1,206	15,164	2,998	-	27,150
1989/90 (2) Total	1,265,100	649,912 (5)	126,315 (3) (4)	115,850	216,995	203,647	(27,217)	1,280,300
Hebrew University	310,500	176,609	32,147	50,900	45,600	32,856	(23,712)	314,400
Technion	207,370	124,000	17,760	14,100	24,600	30,480		210,020
Tel-Aviv University	272,260	132,400	24,030	7,100	71,025	42,205	(1,100)	275,660
Bar-Ilan University	105,000	56,400	8,900	2,000	24,470	14,830	(360)	106,300
University of Haifa	67,370	28,200	6,763	1,200	17,700	14,880	(573)	68,170
Ben-Gurion Univ.	115,500	63,063	16,914	8,550	16,400	16,936		117,600
Weizmann Institute	156,100	59,800	19,522	30,600	0	48,700	(1,472)	157,150
Open University (6)	31,000	9,440	279	1,400	17,200	2,760		31,000

Notes:

(1) According to the notes to the balance sheets of the universities as prepared for the PBC. The Technion and the Open University - according to their balance sheets.

(2) Approved budgetary outlines at updated prices.

(3) Includes earmarked allocations transferred to closed budgets and research budgets.

(4) Includes one-time earmarked allocations amounting to NIS 58,600,000 in 1988/89 and NIS 15,200,000 in 1989/90.

(5) Includes one-time allocations as follows: Hebrew Univ. - NIS 1,139,000; Bar-Ilan University - NIS 1,900,000.

(6) Budget outlines and PBC participation do not include tax returns (in 1988/89 - NIS 2,765,000 and in 1989/90 - NIS 3,647,000).

Regular Activity of the Non-University Institutions of Higher Education - 1988/89 and 1989/90
(NIS Thousands, at Current Prices)

	Total Expenditures	Income					
		PBC Allocations		From Donations	From Student Fees	Other Income	Total Income
		Direct	Earmarked				
1988/89 (1) Total	27,535	15,895	483	3,234	4,591	4,016	28,219
Bezalel - Academy of Art and Design, Jerusalem	9,368	5,490	82	467	1,773	2,352	10,064
Jerusalem Rubin Academy of Music and Dance	4,792	3,060	113	116	945	546	4,780
Jerusalem College of Technology	8,226	3,925	250	2,240	893	918	8,226
Shenkar - College of Textile Technology and Fashion	5,149	3,420	38	411	980	300	5,149
1989/90 (2) Total	31,445	19,288	393	3,170	6,095	2,499	31,445
Bezalel - Academy of Art and Design, Jerusalem	10,370	6,565	210	800	2,270	525	10,370
Jerusalem Rubin Academy of Music and Dance	6,050	3,780	137	170	1,470	493	6,050
Jerusalem College of Technology	9,125	4,768	-	2,075	1,175	1,107	9,125
Shenkar - College of Textile Technology and Fashion	5,900	4,175	46	125	1,180	374	5,900

(1) According to the notes to the balance sheets prepared by the institutions for the PBC.

(2) Approved budget outline at updated prices.

4.2.1 The Direct PBC Allocation

The PBC's direct allocation represents the principal component of the budgets of the institutions of higher education. The apportionment of the allocation between the institutions is determined each year based on various indices such as the number of students, the number of graduates, the relative cost of different fields and levels of study, essential teaching fields and the scope of research. Total PBC direct allocations increased, in real terms, in the year under review as a result of the larger resources made available for furthering the higher education system, as part of the long-term plan.

4.2.2 Matching Allocations to Endowment Funds

Matching allocations are granted in order to encourage the accumulation of donations in endowment funds, the proceeds from which are added to the current budgets of the institutions of higher education. These allocations had their beginning in "historical obligations" by Ministers of Finance, in the period preceding the PBC's establishment, to allocate special sums over and above direct government allocations for this purpose.

Since 1982/83 a new method of determining matching allocations has been implemented. According to this method each institution presents to the PBC a detailed annual report audited by an accountant on any movements or changes in eligible endowment funds as well as the investments of assets in Israel. This report serves as the basis for the approval of the matching allocation for endowment funds, which are computed as a percentage (7%) of total eligible endowment funds.

In recent years the Ministry of Finance no longer views endowment funds as vital for the State's foreign exchange balance and, as a result, financing for this budgetary item comes from the general State allocation to higher education.

In 1987/88 the PBC decided that it would limit its obligations to grant matching allocations for new eligible endowment funds. This is a result of the Ministry of Finance's position and in order to give the PBC more leeway in the allocation of the resources available to it.

The PBC therefore "froze" its obligations up to 30.9.1987 - that is, matching allocations for 1987/88 were "advance allocations", although the PBC allowed the institutions a "transitional year" for additional funds received until 30.9.1988 on account of commitments made prior to 30.9.1987.

According to the reports that the institutions must make to the PBC each year, the total value of all eligible funds as of the end of 1988/89 (30.9.89) was almost NIS 1,022 million (about $515 million) and served as the basis for computing the matching allocations for 1989/90. Matching allocations to the institutions of higher education in 1989/90 amounted to approximately NIS 72.6 million as detailed in the following table:

Matching Allocations - 1989/90
(NIS Thousands)

	Value of the funds 30.9.89	Matching Allocation 1989/90
Total	1,021,996.1	72,650.4
The Hebrew University of Jerusalem	275,981.2	19,318.7
The Technion - IIT	146,751.3	11,194.7
Tel-Aviv University	174,975.5	12,381.3
Bar-Ilan University	66,508.2	4,655.6
The University of Haifa	31,954.7	2,236.8
Ben-Gurion University of the Negev	116,867.8	8,180.8
Weizmann Institute of Science	201,124.6	14,078.7
The Open University of Israel	3,011.4	210.8
Bezalel - Academy of Art & Design	2,211.9	210.4
Jerusalem Rubin Academy of Music and Dance	1,949.0	136.4
Shenkar - College of Textile Technology and Fashion	660.5	46.2

4.2.3 The PBC's Special Allocations

These allocations are intended for the development of academic infrastructure, promotion of research and other earmarked subjects, as follows:

* Yigal Allon Fellowships
* Fellowships for outstanding doctoral students in the humanities and social sciences
* Scientific equipment
* Inter-university scientific equipment
* Basic research
* Designated allocations
* Inter-university cooperation
* Pre-academic preparatory courses
* Academic courses in regional colleges
* Clinical appointments in peripheral hospitals
* Other allocations for books and libraries in other funds

These subjects are discussed in greater detail in Chapter 5 (development of academic infrastructure and promotion of scientific excellence), Chapter 7 (inter-university cooperation) and in Chapter 9 (other subjects).

4.2.4 Income from Tuition Fees

Continuing erosion of the value of tuition fees until 1984/85 caused the Knesset to raise tuition fees in the institutions of higher education by means of the imposition of a "temporary tuition levy", which was to be charged at a partial rate in 1984/85 and at the full rate in 1985/86 and 1986/87. The decision to impose this levy was preceded by lengthy negotiations with students, beginning in 1983/84, on the raising of tuition fees in order to counteract erosion, as the "Katzav Committee" recommended, and in order to increase fees in real terms, as part of the new economic policy of the Government. The tuition levy was canceled in 1987/88 when the Government established a new rate of tuition fees that was lower than the combined tuition fees and levy that had been charged students during the preceding two years. The higher education system received compensation for the lower level of income from tuition fees. Tuition fees in 1988/89 were set at the same level, in real terms, as in 1987/88, plus adjustment for inflation.

During 1988/89 all parties concerned agreed to an arrangement whereby tuition fees would be increased, in real terms, by 9% for the years 1989/90 and 1990/91. The method of compensating for inflation for this period was also determined.

Early in 1990/91 a public committee was appointed to determine tuition fees for the years 1991/91 - 1995/96.

In 1989/90 income from tuition fees represented approximately 17% of the total income of the institutions of higher education.

4.2.5 Income from Donations

Most donations come from abroad. Income from donations to the ordinary budget was expected to reach approximately NIS 118 million in 1989/90. This does not include income from endowment funds, donations to endowment funds and donations to the development budget.

4.2.6 Miscellaneous Income

This category includes:
* income from investments and assets of the endowment funds;
* sale of services (including overhead from other budgets);
* participation by government ministries and other institutions in the operation of special programs such as advanced training courses for teachers, para-medical professions, etc.

4.3
University Debts

With the PBC's assistance the debts owed by the institutions of higher education because of loans have decreased in real terms. In the following table the loans owed by the universities at the end of 1989/90 are compared with those owed at the beginning of 1988/89. The figures are nominal and their rate reflects a decrease in real terms of about 25% in the debts owed by the universities due to loans. Debts include credit in a current drawing account ("overdraft"), bank credit and internal credit.

Debts Owed by the Universities as of 30.9.89 and 30.9.90
In NIS Thousands, at Current Prices

(1)	(2)		(3)		(4)		(2)+(3)+(4)=(5)	
Institution	Highest Credit in CDA		Bank Credit		Internal Credit		Total	
	1989	1990	1989	1990	1989	1990	1989	1990
Hebrew University	-	-	26,557	25,091	74,800	67,881	101,357	92,972
The Technion	-	19	1,214	310	-	-	1,214	329
Tel-Aviv University	9,465	9,172	11,354	2,080	30,741	29,974	51,560	41,226
Bar-Ilan University	102	-	7,609	4,161	5,000	5,143	12,711	9,304
University of Haifa	-	-	-	-	-	-	-	-
Ben-Gurion Univ.	-	-	3,412	1,766	7,897	-	11,309	1,766
Weizmann Institute	-	8,903	34,824	5,525	-	-	34,824	14,428
Grand Total	9,567	18,094	84,970	38,933	118,438	102,998	212,975	160,025

Notes:
1 30.9.1989 - According to financial reports.
2 30.9.1990 - According to data supplied by the institutions.
3 Current drawing account (overdraft) (CDA) 1989 - refers to the highest balance in the current drawing account in September 1990.

4.4
Wages

In 1989/90 the PBC continued to deal with wages in the higher education system, in coordination with the official in charge of wages in the Ministry of Finance. The PBC's guiding principle is that each and every institution is totally and directly responsible for fulfilling wage agreements. Approval by the official in charge of wages in the Ministry of Finance, recommendations of the wages committee of the Committee of Heads of Universities, and coordination with the PBC serve as upper limits to the decisions of each institution.

The PBC was active in the following:

* In 1988/89 the Chairman of the PBC appointed a committee of experts to examine the erosion of the wages of academic staffs compared with the salaries of the upper quarter of a group of engineers and academic employees in the civil service. The examination was to be carried out in February 1989 but was delayed due to the non-implementation of wage agreements for that sector of the civil service (while the bonuses in question were paid in full to the academic staffs). The committee of experts examined the reliability of data on the wages of the relevant groups.
* The committee appointed to examine pension insurance in the institutions of higher education system presented its report. The PBC adopted the committee's recomendations and held meetings with the heads of the institutions to discuss the implementation of the recommendations.

  The recommendations of the committee are as follows:
  a. As of October 10, 1990 budgetary pensions will cease and the employees of the institutions will be transferred to an external pension fund.
  b. As of October 10, 1990 the Ministry of Finance and the PBC will add the funds that must be paid to external pension funds to the budgetary basis of the institutions of higher education.
  c. The committee recommended that pension payments to existing employees and the terms that accumulated until September 30, 1990 should remain in force. As of October 1, 1990 pension terms will be determined by the external pension fund that will be chosen.

4.5
The Development Budget

4.5.1 Construction in the Institutions of Higher Education

In 1989/90 as in all of this decade, construction in the institutions of higher education was smaller than in the previous decade and relative to the general activity of the institutions: it was confined to a small number of projects.

Some construction activity was within the confines of the general long-term development plan, some was financed from the State budget and some was fully financed from donations.

The long-term development plan (for the period 1981/82 - 1985/86) was agreed upon between the PBC and each of the institutions of higher education and the PBC and the Ministry of Finance in 1982. It is intended to encompass 114,000 square meters of construction, which will be financed partly by the PBC. It is composed of essential projects approved by the PBC from among plans totaling about 300,000 square meters proposed by the institutions. The approved plans represent an increase of about 8% over the present built-up area, or less than 1% a year until the end of the decade.

Projects included in the plan are for the development of fields having national priority (such as engineering, especially electrical engineering and electronics and dentistry) or for the alleviation of specific instances of shortage of space that hamper the proper functioning of an institution.

The PBC's participation in each of the projects is predetermined according to set tariffs which take into account the urgency of the projects, the total cost of the investment and the resources available from donations. The PBC's participation is usually up to a third of the cost and in special cases may be up to half the cost.

The long-term plan, which was approved in principle by the Ministry of Finance, was based on the assumption that the Israeli Shekel equivalent of about $10 million (at 1982 prices) would be allocated yearly. However, due to budgetary cutbacks, the sums available to the PBC for implementing the long-term plan were less than anticipated. By the end of 1989/90 only about 70% of the promised sums had been transferred. As a result, implementation of the plan was slowed down and some approved projects were postponed. The plan was to have finished in 1985/86 but will only be able to be completed in the next decade, according to the current rate of budgeting. By the end of 1989/90 approximately 73,000 square meters were constructed, including buildings that were nearing completion at that time.

As part of the long-term development plan, the PBC also intended to devote resources to participation in renovations and adaptations (beyond routine repairs and maintenance which are financed from the ordinary budget) of ageing buildings and systems and in order to adapt existing structures to changing uses instead of initiating new construction. In 1982/83 and 1983/84 sums were allocated for this purpose and the PBC's participation in projects of this nature was up to 50% of the cost. However, beginning in 1984/85, due to restricted resources available to the PBC, virtually no allocations could be made.

Even projects financed entirely, including maintenance costs, from donations require the PBC's approval. Each request is examined from four aspects: the needs of the university; the requirements of society and the economy; the total investment involved including maintenance costs; and the availability of resources. In 1989/90 the PBC approved five projects of this nature.

In 1989/90 approval was given to Ben-Gurion University of the Negev to build two large buildings with special State budget participation in their financing. Approval was given to one building in order to honor an obligation made to the donor in 1972, and to the second building as a result of a decision by the Ministerial Committee for the Negev.

4.5.2 Finances

Total investment in construction in the higher education system in 1989/90 amounted to approximately NIS 52 million, most of this in the universities. The public participation in development budgets in 1989/90 amounted to NIS 13.4 million - NIS 7.6 million in the universities and NIS 5.8 million in other institutions of higher education, for projects included in the long-term plan or financed by special allocations from the State budget.

Data on actual investments and PBC participation in development budgets in 1987/88, 1988/89 and 1989/90 are as follows:

Development Budgets of the Universities - 1987/88 - 1989/90
(NIS Thousands, at Current Prices)

	1987/88		1988/89		1989/90	
	Actual Investments (1)	PBC Partici-pation	Actual Investments (1)	PBC Partici-pation	Estimated Investments	PBC. Partici-pation
Total	54,670	4,440	45,670	5,460	41,000	7,580 (5)
Hebrew University	2,300	-	2,000	-	3,000	-
Technion - IIT	8,500 (3)	-	6,800 (3)	-	5,000 (3)	-
Tel-Aviv University	23,570	3,800 (5)	16,390	3,090	13,000	- (5)
Bar-Ilan University	6,480	210	7,450	1,650	5,000	1,090
University of Haifa	2,240	320	1,590	430	1,000	365
Ben-Gurion University Total	2,450	110	3,390	290(6)	10,000	6,125
Inst. for Desert Research (2)	(790) (4)	(110)	(510) (4)	(290)	(2,500) (4)	(365)
Weizmann Institute of Science	8,950	-	6,870	-	4,000	-
Open University	180	-	180	-	-	-

(1) According to the financial reports of the universities. Includes construction, installations and furniture in new buildings but does not include scientific equipment.
(2) Defined as a project of special national importance.
(3) After deduction of estimated commitments pending and investments in equipment from the development budget.
(4) Includes equipment.
(5) Does not include special allocations in 1987/88 (NIS 1,470,000) and 1989/90 (NIS 696,000) for the classroom building for electrical engineering at Tel-Aviv University (from the ordinary budget).
(6) Does not include a special allocation of NIS 775,000 in 1988/89 for the planning of a building for humanities and social sciences at Ben-Gurion University of the Negev (from the ordinary budget).

Investments in construction in the institutions of higher education have declined steadily in the past decade: in 1989/90 they were only about 17% of their value in 1973/74. Whereas at the beginning of the 70's the development budget was about 25% of the total higher education budget, in 1989/90 it was only about 3%.

In this same period the PBC's participation in development budgets of the institutions of higher education diminished even more rapidly. In 1989/90 it was 11% of what it was in 1973/74: at that time PBC participation in development budgets was about 16% of total PBC participation in higher education budgets and in 1989/90 the percentage was less than 2%. In 1973/74 PBC participation was about 50% of total investments but in 1989/90 it was only about 26%, with most of it coming from donations.

Due to delays in funding and in the collection of donations which were to finance many of the development programs, certain universities, in particular Tel-Aviv University, accumulated deficits in development budgets. These deficits are to be covered during the coming years.

The following table presents data on the development budget of the universities from 1973/74 to 1989/90 (including data on the Open University and the non-university institutions of higher education).

The Development Budget of the Universities 1973/74 - 1989/90
(NIS Thousands)

	Universities (1)		Other Institutions		Universities (1)		Other Institutions	
	At Current Prices				At 1989/90 Prices (2)			
	Invest-ments	PBC Alloca.	Invest-ments	PBC Alloca.	Invest-ments	PBC Alloca.	Invest-ments	PBC Allo.
1973/74	26.0	13.0	-	-	243,200	120,970	-	-
1974/75	31.3	14.1	-	-	214,420	96,510	-	-
1975/76	28.5	8.7	-	-	155,380	47,760	-	-
1976/77	31.9	12.8	-	-	135,640	54,650	-	-
1977/78	50.7	16.7	-	-	138,150	46,440	-	-
1978/79	75.7	17.0	-	-	120,170	26,790	-	-
1979/80	161.4	44.5	-	-	115,300	31,720	-	-
1980/81	381.0	84.3	2.6	1.8	115,360	25,530	7,880	5,440
1981/82	734.6	180.7	42.4	42.7	104,850	25,800	6,050	6,100
1982/83	1,724.5	337.1	63.0	50.6	109,640	21,430	4,000	3,210
1983/84	5,583.0	1,358.3	1,067.0	105.5	88,560	21,540	16,920	1,670
1984/85	25,074.0	4,992.0	2,697.4	900.0	90,600	18,040	9,760	2,090
1985/86	40,770.4	9,406.6	3,580.6	152.0	83,310	19,920	7,580	320
1986/87	50,530.0	7,971.0	2,992.6	279.0	80,360	13,380	5,020	470
1987/88	54,670.0	4,440.0	4,396.0	2,560.0	75,400	6,120	6,030	3,530
1988/89	46,000.0	5,460.0	12,110.0	4,240.0	54,520	6,380	4,150	4,950
1989/90	41,000.0 (3)	7,580.0	11,000.0 (3)	5,780.0	41,000 (3)	7,580	11,000 (3)	5,780

1 Includes the Open University
2 1989/90 prices are based on the Construction Price Input Index.
3 Estimate.

5

DEVELOPMENT OF ACADEMIC INFRASTRUCTURE AND PROMOTION OF RESEARCH AND SCIENTIFIC EXCELLENCE

The universities are engaged in both teaching and research. University teaching not accompanied by research cannot maintain a proper academic level for any length of time.

About 35% of all research and development in Israel in the civilian sector in the natural sciences, medicine, agriculture and engineering takes place in the universities. Most research in the humanities and social sciences is conducted in the universities, as is virtually all of the basic research, which is financed from the ordinary budget and external research funds (amounting to tens of millions of dollars).

Almost all the technological advances in industry and defense in Israel were achieved due to basic research conducted in the institutions of higher education ten or even twenty years earlier. The foundations for science and technology in the 21st century must be laid in the universities now. Every effort must be made to expand funds for financing basic research in the universities and to increase the existing external funds, such as the bi-national funds (with the United States and Germany) and the Basic Research Fund, and to add to them endowment funds for basic research, the income from which will be directed to research grants through the Basic Research Fund. The bi-national funds (with the United States and Germany) should also be enlarged, as long as this does not come at the expense of enlarging Israeli State research funds.

The PBC's activities designed to promote university research are as follows:

5.1
The Basic Research Fund

The Basic Research Fund, which is financed by the State budget for higher education for which the PBC is responsible, awards grants for basic research to researchers in the universities on a competitive basis, based on quality and excellence. The system for the support of basic research was established in 1972 following a decision of the Prime Minister and the

Minister of Education and Culture; its administration was entrusted to the Israel Academy of Sciences and Humanities. Until 1978 this support system operated in two branches: the Arm for Applied Research at the National Council for Research and Development and the Basic Research Fund at the Israel Academy of Sciences and Humanities. The basic research branch became an independent fund in 1979. From 1979-1988 the Israel Academy of Sciences and Humanities operated the Basic Research Fund in cooperation with the PBC. The Fund had a council composed of representatives of the Academy and the PBC.

The agreement between the PBC and the Ministry of Finance regarding the long-term budgetary plan to advance the higher education system and its implementation enabled the PBC to increase significantly its allocation to the Basic Research Fund for the years 1987/88, 1988/89 and 1989/90. It was also decided that as of 1988/89 the Research Fund for Electronics, Computers and Communication would merge with the Basic Research Fund, which would support research projects in these fields. As of 1988/89 the PBC also transferred to the Fund its program of special allocations for the purchase of scientific equipment on a competitive basis, which was active from 1977/78 to 1988/89. This subject is now an integral part of the Basic Research Fund.

The PBC made part of the increase conditional on the adoption of new regulations by the Fund and the appointment of a public council and administration, which was necessitated by the increased scope of the Fund. The Chairman of the PBC and the President of the Israel Academy of Sciences and Humanities together drew up a proposal for new regulations.

The new regulations of the Fund, which were adopted by the outgoing council of the Fund, the council of the Academy and the PBC in December 1989, were implemented in 1989/90. The new regulations are based on two premises: the Fund, which will be administered by the Academy, is to be operated on the basis of scientific and public principles; the resources of the Fund, composed of a current budget deriving from income from endowment funds and other income generated by the Fund according to its rules, will be kept separate from the budgetary responsibility and maintenance of the endowment funds themselves.

A new council was set up, composed of ten members: the President of the Academy, two representatives of the Academy's council, the Chairman and another representative of the PBC, three full professors from the higher education system, and two public representatives of national standing. A new administration, composed of seven members, was also appointed: the chairman of the Fund, who is a scientist, three leaders in fields of research, a representative of the PBC, a member of the scientific community, and the Director of the Academy.

The criteria for evaluating research proposals are: the importance of the research, its originality and novelty, and the personal scientific excellence of the researcher and his scientific qualifications. Grants are awarded for a period of from one to three years.

The Academy's efforts to recruit endowment funds, the income from which will finance research grants awarded through the Basic Research Fund and according to its criteria, have begun to show results. It is hoped that these sources will prove to be a suitable complement to the PBC's increased allocations and will enable the Fund to expand its salutary activities even further.

In 1989/90 the Fund awarded 342 grants, 125 of them for new research projects and 217 for continuing grants. The Fund also awarded 18 grants for the purchase of permanent equiment, amounting to NIS 14,051,266. In addition, in May 1990 it approved grants for equipment amounting to NIS 1,240,000.

In 1988/89, which was the first year of the Fund's involvement in grants for equipment, the Fund allocated NIS 380,000 for the purchase of 12 items of scientific equipment. In 1989/90 the scope of allocations for equipment expanded and reached, as stated above, NIS 1,240,000.

PBC allocations to the Basic Research Fund totalled NIS 15,070,000. The Fund awarded grants amounting to NIS 15,551,266 (including balances carried over from 1988/89).

Grants from the Basic Research Fund in 1989/90
(In NIS)

	New Research Projects	Continuing Projects			Total
		Second Year	Third Year	Total Continued Projects	
Total	7,588,928	5,786,274	2,376,064	8,162,338	15,551,266
Natural Sciences-Total	6,879,428	5,091,626	2,105,438	7,197,064	13,876,492
Of this: Exact Sciences	1,428,000	1,341,000	712,500	2,054,000	2,482,000
Life Sciences	2,514,000	2,706,126	1,392,938	4,099,064	6,613,064
Scientif. Equipment	2,737,428	-	-	-	2,737,428
Human-ities & Soc. Sci.	709,500	694,648	270,626	965,274	1,674,774

Based on data from the Basic Research Fund.

5.2
Yigal Allon Fellowships for Outstanding Young Researchers

The Allon Fellowship Program is designed to enable the universities to recruit outstanding young researchers to their staffs. Competition for the fellowships is based on personal excellence and there are no quotas for institutions or subjects. The fellowships permit the universities to provide the fellows with initial full-time appointments as "lecturer" or "senior lecturer". The university undertakes to employ the fellow and include his salary in its ordinary budget at the end of the three years of the fellowship, thus ensuring the absorption of the fellows into the higher education system.

The PBC awards over 20 three-year fellowships each year, each equivalent to the average salary of a lecturer or senior lecturer as the case may be.

Twenty-two Allon Fellows took up their positions in 1989/90, the ninth year in which Allon Fellowships were awarded: 6 in the humanities, 3 in the social sciences, 7 in the life sciences and 6 in the exact sciences and engineering. NIS 3,231,000 were transferred to the universities to cover the expenses of 69 fellows in three different three-year cycles in 1989/90.

Yigal Allon Fellowships - 9th Cycle (1989/90-1990/91-1991/92) Statistics by Subject Area

	Total	Humanities	Social Sciences	Life Sciences	Exact Sciences & Engineering
Requests	90	17	13	27	33
Candidates	82	17	13	22	30
Fellowships Awarded	24	6	4	8	6
Fellowships Taken Up	22	6	3	7	6
Average Age of Fellows-Years	-	36.3	35.2	34.1	33.5

Note: The difference between the number of requests and the number of candidates stems from the fact that some candidates were presented by more than one institution.

In 1989/90 the selection committees chose the 10th cycle of Yigal Allon Fellows, who will commence their work at the beginning of the 1990/91 academic year. Thirty fellows were selected: 5 in the humanities, 4 in the social sciences, 7 in the life sciences and 14 in the exact sciences and engineering.

Yigal Allon Fellowships -
10th Cycle (1990/91-1991/92-1992/93)
Statistics by Subject Area

	Total	Human-ities	Social Sciences	Life Sciences	Exact Sciences & Engineering
Requests	93	12	23	22	36
Candidates	85	12	20	20	33
Fellowships Awarded	30	5	4	7	14
Fellowships Taken Up	Not yet known.				
Average Age of Fellows-Years	-	38.0	36.2	34.1	34.9

Note: The difference between the number of requests and the number of candidates stems from the fact that some candidates were presented by more than one institution.

5.3
Research Grants for Young Staff Members

In 1989/90 the PBC decided to award research grants to Allon Fellows who started their employment during this year, in addition to the cost of their salaries, in order to ease their absorption into the higher education system. The grants are intended for the purchase of scientific equipment, books, current expenses and any training necessary for their research projects. Ten Allon Fellows in the experimental sciences received grants amounting to NIS 50,000 each and ten fellows in non-experimental fields received grants of NIS 15,000 each. In all, the PBC allocated NIS 650,000 for these grants in 1989/90.

5.4
Scholarships for Outstanding Doctoral Students in the Humanities and Social Sciences

After examining the subject the PBC reached the conclusion that a problem exists in the training of potential academic staff in the humanities. This is due to a decline in the qualifications of students admitted to these subjects and to the length of time necessary to complete research theses because students are not able to devote all their time to research (as opposed to the situation in the experimental sciences). A survey of subsistence grants to graduate students that was carried out in 1986/87 showed that the universities award only 115 grants to students in all fields of the humanities and the social sciences, compared with 945 grants to students in the exact sciences.

The PBC therefore decided to inaugurate a special program for the award of 10 three-year scholarships for outstanding doctoral students in the humanities and some of the social sciences. The program is for four years and began in 1987/88.

The scholarships are equivalent to $7,000 a year, for three years. The institutions present lists of candidates and undertake to provide scholarship recipients with $750 a year (in NIS) for research expenses and to refrain from employing them as part of the scholarship award. Furthermore, if they are employed as teaching assistants they may not be burdened with more than 4 weekly teaching hours per year. Scholarship recipients, for their part, must complete their research projects within three years.

The scholarship selection committee appointed referees to read the master's theses of candidates (or seminar papers of candidates in direct doctoral programs that bypass the master's degree) and their doctoral research proposals.

Changes were made in the regulations of this program in 1989/90: an appraisal of the student's master's degree thesis (or symposium papers if the student is in a direct Ph.D. program) and his or her plans for the doctoral thesis must be included in the application. These serve as the basis for the selection of scholarship recipients.

In 1989/90 the PBC operated the third cycle of this program by awarding scholarships to nine students, from among 19 candidates presented by the universities.
The PBC transferred NIS 224,000 to the universities for the scholarships of 16 students from the first two cycles.

5.5
Allocations for Scientific Equipment

In 1988/89 the PBC changed its policy of awarding allocations for the purchase of scientific equipment. It was decided to transfer the allocations, which were awarded on a competitive basis from 1977/78 to 1987/88, to the Basic Research Fund (see Sect. 5.1 above).

The PBC will now concentrate on allocations for the establishment of national centers for scientific equipment for basic research - that is, a laboratory or expensive equipment that is purchased by a specific institution and operated by it but available for use to researchers from all institutions. Since a program of this nature involves many considerations with planning aspects the PBC decided to operate it directly.

A referee, appointed for each request, recommends that the PBC either approve or reject the request.

For each national center approved by the PBC a committee of users is formed, composed of researchers from the host institution as well as other institutions. The committee's task is: to inform the academic community of the possibility of utilizing the equipment of the national center and the procedures for such use; to review the research proposals of those who request to use the equipment of the national center; and to decide to whom to charge the expenses incurred by this use.

Allocations for scientific equipment in national centers in 1989/90 were as follows:

1. NIS 2,737,428 were allocated as a supplement to the Basic Research Fund in order to enable it to include allocations for the purchase of scientific equipment in its research grants. (See Sect 5.1 above.)

2. NIS 4,992,000 were allocated for participation in the establishment of national centers for scientific equipment (including NIS 922,000 as obligations) as follows:

    1. NIS 2,070,000 (in addition to NIS 2,000,000 transferred in 1988/89) for the establishment of a national center for sub-micron physics, at a total cost of approximately $15,000,000, at the Weizmann Institute of Science.

    2. NIS 2,050,000 for the establishment of a center for secondary ion mass spectroscopy at the Technion's Solid State Institute.

    3. NIS 415,000 and an obligation for a further NIS 373,000 for the center for the crystallographic examination of biological macro-molecules at the Hebrew University of Jerusalem.

4. NIS 580,000 for the establishment of a magnetic measurement center at Bar-Ilan University.

5. NIS 549,000 for the establishment of a mass spectrometry center at the Technion.

5.6
Allocations for the Purchase of Books and Periodicals

In view of the importance of the acquisition of books and periodicals and the danger of diminishing acquisitions in times of budgetary constraints, the PBC makes a special annual allocation for the purchase of books and periodicals by university libraries. Since the allocation is intended to encourage universities to purchase more books and periodicals, its amount depends upon the sum each institution devoted from its own resources to this purpose in the previous year.

Since ten years have passed since the PBC began to award earmarked allocations for the purchase of books and periodicals, the PBC held a fundamental discussion of the subject at the end of 1988/89. It decided to increase its allocations significantly and to change the method of allocation before the 1989/90 academic year.

The institutions' allocations from their own resources for this purpose amounted to NIS 14,640,000 in 1989/90 and the PBC's special allocation for university libraries was NIS 9,060,000 (including NIS 260,000 carried over from 1988/89). For the purposes of comparison, the PBC's allocation for 1988/89 was NIS 4,965,000, including NIS 1,345 carried over from 1987/88.

Beginning in 1989/90 the basis for the apportionment of this allocation among the institutions is their share in the division of the institutions' own expenditures on the acquisition of books and periodicals in recent years. The PBC's allocation is conditional: the institutions must allocate from their own resources 10% more, in dollars, than they allocated in the previous year.

6

FUNDS FOR THE ENCOURAGEMENT OF RESEARCH IN SPECIAL SUBJECTS, FINANCED JOINTLY WITH OTHER ORGANIZATIONS

6.1

The Joint Atomic Energy Commission - PBC Research Fund

The purpose of this fund is to encourage cooperation between the AEC and the institutions of higher education and to promote scientific research in fields which are of joint interest.

This fund operates through a joint PBC-AEC administration and a selection committee. Research projects must be in a field of activity which is of interest to the AEC and must be carried out in institutions of higher education.

The PBC's participation in this fund in 1989/90 amounted to NIS 894,000.

6.2

The Joint PBC - Ministry of Defense Research Fund

The purposes of this fund are:
* to promote scientific research in the universities in fields of joint interest;
* to expand the scientific-technological infrastructure of the universities in areas that are of mutual interest;
* to foster and advance young researchers or researchers returning from abroad in relevant subjects in the universities or to train them for employment in high-tech industries.

A joint administration operates the fund. Research projects are chosen by professional committees and are carried out by researchers in the universities.
The PBC's participation in this fund for 1989/90 was NIS 1,000,000.

6.3
The United States - Israel Education Foundation

This fund, also known as the "Fulbright Foundation", is a bi-national fund based on an agreement between the two governments signed in 1956. Each year the foundation finances visits to Israeli universities by US lecturers, researchers and students and also awards scholarships to Israeli students and post-doctoral researchers who wish to study in the US.

Half of the foundation's annual budget is financed directly by the US Government, and a third derives from the proceeds of an endowment fund of $5 million that was set up in 1985.

Since 1967 the Government of Israel participates in the foundation through the Ministry for Foreign Affairs and the PBC. The PBC's participation in the foundation in 1989/90 was $15,000, while the Ministry for Foreign Affairs's participation was $35,000.

The Foundation's budget was $1,130,000 in 1990.

7

INTER-UNIVERSITY COOPERATION

The PBC encourages cooperation among the institutions of higher education. To this purpose the following measures have been taken in recent years: the Inter-University Computing Center (IUCC) was established; a communications network to facilitate computer communication between universities in Israel and abroad was set up; university libraries were computerized uniformly; the National Center for Testing and Evaluation was established, replacing separate centers in each university; a national information system on the requirements for admission to the institutions of higher education was developed; and the Hebrew University of Jerusalem's institute for oceanography in Eilat serves as an inter-university institute for oceanographers, marine biologists and geologists from all universities and holds inter-university courses for students of all institutions. In addition, the activities of the Institute for Desert Research and the Ben-Gurion Research Center, both part of Ben-Gurion University of the Negev and located at Sede Boker, were expanded and are available to researchers from all the institutions and the Israel Academic Center in Cairo was established and serves researchers from all universities.

Coordinated purchasing is practiced by the universities, mainly in the field of computers. In this area they can utilize their joint purchasing power.

Joint academic degrees are awarded in some academic programs: a master's degree and Ph.D. in economics awarded jointly by the Technion and the University of Haifa; a master's degree in music awarded jointly by the Hebrew University of Jerusalem and the Jerusalem Rubin Academy of Music and Dance; and a bachelor's degree program in occupational therapy operated jointly by the University of Haifa and the Technion.

7.1
Computers

For ten years the PBC has been supporting computerization in the universities in two ways: by participating in the expenses of university computing centers and by participating in the expenses of the IUCC (Inter-University Computing Center).

7.1.1 Development of Computing Centers

The PBC is active in the development of university computing centers. The PBC's aim in these allocations is to encourage rational long-range planning in each institution while taking into account the over-all computing needs of the academic community in Israel. The PBC encourages reciprocal utilization of computer resources in order to enable equipage of the system as a whole to progress in a gradual and orderly manner and to allow for the regulation of demand in each institution, as well as facilitating decision making without pressure. A new subcommittee for compucation (communication and computers) was appointed in 1989/90 to re-examine the PBC's activities in this area. This committee recommended that in the 1989/90 academic year there should not be any changes in PBC policy on allocations. As a result, the PBC authorized participation in the development of computing centers according to the projects presented to it by the institutions. The PBC allocated approximately NIS 2,448,000 to university computing centers in 1989/90.

7.1.2 Super-Computers

In 1987/88 a PBC sub-committee that examined the subject of super-computers presented its report, which was adopted by the PBC. The report recommended that three or four mini-super-computers be installed on a gradual and coordinated basis in university computing centers and that researchers from other institutions should have access to these computers. The committee also recommended that a steering committee for super-computers be appointed.

During 1988/89 and 1989/90 three institutions purchased Convex C-220 mini-super-computers. The PBC undertook to allocate to the three institutions the NIS equivalent of $1,600,000, over a three-year period. The allocation for 1989/90 amounted to NIS 730,000.

7.1.3 The Inter-University Computing Center (IUCC)

The Inter-University Computing Center, which was established at the initiative of the PBC at the end of the 1982/83 academic year, was registered as a "registered society" by seven universities in 1989/90. The institutions, members, authorities amd work procedures of the registered society were defined. The executive committee of the registered society was chosen, including a chairman; a director for the registered society was also chosen.

The purpose of the registered society is to deal with all matters concerning compucation (communication and computers) and to promote cooperation and mutual assistance between the member institutions in this field and between them and research institutions or other corporations interested in university teaching and research.

The aims of the IUCC were defined as follows:

1. Administration, operation and development of an inter-university communications network in Israel.
2. Administration, operation and development of the contact with academic and research communications networks abroad.
3. Representation of Israel in international forums that deal with academic communications networks.
4. Coordination of purchase and maintenance agreements (of hardware and software) and implementation of joint university purchases.
5. Coordination of the use of existing inter-university computer resources, hardware and software, including a policy for mutual charges for use.
6. Examining the requirements for computing power of the universities as a whole, and meeting these requirements.
7. Coordinating and encouraging inter-university cooperation in everything connected with policies on compucation and the management of computing centers and systems in general.
8. Coordination of activities connected with evaluation of software and hardware, methods of operation and management of computer resources, the development of data systems and training.
9. Coordination and regulation of the unique professional knowledge available in the system, for inter-institutional assistance.
10. Providing services to the members of the company, as set out by the executive committee.

In 1989/90 five high-speed (64Kb) diginet lines were operated of the six that were ordered as a first stage. These lines are part of the national academic communications network ("ILAN"). This networks connects the university computers, as well as those of other educational and research institutions. The national academic communications network is part of the European Academic and Research Network (EARN) and, through it, is connected to BITNET and other networks in the United States.

A direct line for computer communications with the United States was ordered in 1988/89, in addition to the existing international line to France.

The universities continued to coordinate their purchases and reached joint agreements with suppliers of computer equipment, hardware and software. The universities thus utilize the joint purchasing power of the IUCC society to conserve their resources.

PBC allocations to the IUCC in 1989/90 amounted to NIS 845,000, including NIS 120,000 for the direct communications line to the United States.

The forum of university computing center directors continued to convene monthly in 1989/90. The forum discusses coordination between computing centers and makes recommendations to the executive committee of the IUCC registered society. The forum set up working groups in different areas such as: communication, personal computers, data protection, and VM, UNIX and VMS operating systems.

7.2
University Libraries

The directors of the university libraries meet several times a year to discuss the strengthening of cooperation between libraries, with a view to greater economy and efficiency.

The libraries of the institutions of higher education cooperate in the following areas:

The Inter-Library Loan Project, allowing users to order and borrow books from libraries in all the institutions.
The Union List of Serials in Israel, containing catalog data and the location of all periodicals in the libraries of the institutions of higher education and research institutes in Israel.
The Inter-University Library Network, which connects the university library computers and permits computerized cataloging, searches and loans in all university libraries and between them. The network is based on the "Aleph" program developed by the Hebrew University of Jerusalem and operates in a VAX-VMS environment.

The Steering Committee for the Inter-University Library Network, established in 1983/84, continued its activities in 1989/90. The committee directs the development policy of the "Aleph" program regarding computer software and hardware and the services provided by the "Aleph" staff to university libraries.

The PBC promotes these activities by budgetary allocations. In 1989/90 the PBC allocated NIS 610,000 for inter-library cooperation, of which NIS 240,000 was for inter-library loans and the Union List of Serials and NIS 420,980 was for participation in the purchase of VAX computers and software for libraries and further development of the "Aleph" program.

7.3

The Institute for Desert Research at Sede Boker

In order to encourage the Institute's development as a national inter-university center for desert research, the PBC appointed an inter-institution academic committee to follow its activities. The committee's functions are to initiate and foster cooperation between the Institute, which is part of Ben-Gurion University of the Negev, and the institutions of higher education. This includes cooperation between researchers, national and international meetings on desert research, and courses in this subject for students of other universities.

The PBC contributes to the Institute's budget through its direct allocation to the ordinary budget of Ben-Gurion University of the Negev.

7.4

The Ben-Gurion Research Center at Sede Boker

On June 2, 1982 the Council for Higher Education decided to approve the agreement between Ben-Gurion University of the Negev and the Ben-Gurion Heritage Research Institute regarding transfer of the Institute's teaching and research functions, within the framework of the Ben-Gurion Research Center, to the University. The Council instructed the PBC to implement this decision in all matters concerning plans for academic and physical development and budgeting of the Center.

The PBC carried out the directives of the Council and designated a special allocation for the Ben-Gurion Research

Center at Sede Boker as part of its allocation to Ben-Gurion University of the Negev (similar to the arrangement regarding the Institute for Desert Research, which was also covered by the Ben-Gurion Heritage Law of 1976).

In March 1989 the PBC established an inter-institution academic committee to follow the activities of the Center, similar to the inter-institution academic committee for the Institute for Desert Research.

The functions of the committee are to follow the Center's development plans and to guide their formulation and to initiate and establish frameworks for cooperation between the institutions of higher education and the Center, including research projects and joint research centers, meetings of research teams, joint appointments for researchers, etc. The committee will present annual progress reports to the PBC.

7.5

The Inter-University Institute in Eilat

In 1983/84, in order to encourage inter-university cooperation in the operation of the Marine Biology Laboratory in Eilat, which is part of the Hebrew University of Jerusalem, the PBC designated the laboratory as an inter-university institute. The Institute is managed by an administrative committee appointed by the chairman of the PBC after consultation with the rector of the Hebrew University. University scientists serve as committee members. The committee's function is to determine the Institute's scientific programs, priorities for the Institute's work, and development trends. In addition, the committee determines the curriculum in oceanography, agendas for conferences, employment procedures for scientists at the Institute, and possibilities for cooperation between the Institute and universities and research institutes in Israel and abroad.

In 1989/90 the Institute held inter-university courses in which teachers and students from most of the institutions of higher education in Israel participated. Students from all universities were able to participate in courses organized by other universities. Extensive research activity was carried out at the Institute, by local researchers as well as by researchers from different universities.

The Institute held a workshop on the subject of marine symbiosis in 1989/90. Researchers from Israel and abroad attended the workshop, which was supported by the United States - Israel Binational Research fund.

The PBC transfers the Institute's budget, as a closed budget, to the Hebrew University of Jerusalem, which is responsible for operating the Institute and reporting on it.
The PBC's allocation to the Inter-University Institute in Eilat in 1989/90 was NIS 1,590,000.

7.6
The Israeli Academic Center in Cairo

The Israeli Academic Center in Cairo was established in 1981/82 by the institutions of higher education, the Israeli Oriental Society, and the Israel Academy of Sciences and Humanities following a cultural agreement between Israel and Egypt signed in May 1980. Its purpose is to promote academic and scientific cooperation between the two countries.

The PBC finances the Center, which is administered by the Israel Academy of Sciences and Humanities on behalf of the institutions of higher education in Israel. A council and an administration direct the activities of the Center. The council appoints the center's director. Prof. Asher Ovadiah of Tel-Aviv University directed the Center in 1989/90.

The Center organizes seminars, lectures and meetings which are attended by Egyptian lecturers and students. The Center maintains an expanding library and gives advise to visitors, particularly in the field of Judaica.

Of special note is the Center's assistance in the project for a library of synagogues and the documentation of the Jewish heritage in Cairo, which was completed this year. The library was inaugurated in January 1989 in its permanent location in the "Shaarei Shamayim" Synagogue in Cairo. Upon completion of this project, consideration is being given to a similar project for the synagogues of Alexandria as well as assistance for the establishment of a Jewish museum in Cairo.

Researchers, writers and students from Israeli universities visited the Center for researcher purposes or to give lectures at the Center. The Center publishes a bulletin in English and in Arabic.

The PBC's allocation to the Israeli Academic Center in Cairo in 1989/90 was NIS 584,000.

7.7

Data and Guidance System for Students

A computerized data system for candidates for admission to the institutions of higher education has been developed by the Committee of Heads of Universities' National Center for Testing and Evaluation. Developemnt of the system was financed and encouraged by the PBC.

The system is designed to assist candidates for admission to the universities to chose fields and places of undergraduate study. The system, which is called "Meida`at" in Hebrew, provides personal replies to each candidate on the probability that he or she will be admitted to a desired field for undergraduate study. The data is based on the weighted average of the applicant's matriculation marks and his or her score on the psychometric entrance examination, compared with those of students who were admitted to the institution and field in question in recent years.

In addition, the system provides general information on a wide scope of subjects: procedures for admission, student dormitories, preparatory courses, financial assistance, psychometric and other classificatory examinations, academic reserves, improvment of matriculation marks, pre-academic preparatory courses, counselling and guidance services, etc. The system also provides information on the structure and course of studies, as well as curricula, etc.

The system is operated on a personal computer and is user-friendly; it carries out a "conversation" with the candidate. Even someone who has no previous experience with computers can take part in this "conversation" without outside assistance. Candidates are not required to identify themselves.

In 1989/90 the PBC allocated NIS 300,000 for the data and guidance system for students.

8

AID TO STUDENTS

8.1
Tutorial Project ("Perach")

The tutorial project is a joint project of the Ministry of Education and Culture, the PBC, the universities and the National Union of Students. Students volunteering to devote four hours a week to acting as tutors to school pupils are eligible for yearly scholarships which, in 1989/90, amounted to NIS 1,570 (half of the annual tuition fees).

In 1989/90 11,725 students served as tutors, including tutors who served only part of the year. The numbers of students serving as tutors from 1979/80 - 1980/90 appear below:

Tutors in Universities 1979/80 - 1989/90

	79/80	84/85	85/86	86/87	87/88	88/89	89/90
Total	4,030	12,072	13,213	10,924	10,192	10,555	11,725
Hebrew Univ.	500	1,914	1,924	1,751	1,511	1,357	1,703
Faculty of Agriculture*	140	702	712	828	819	937	1,027
Technion-IIT	320	2,004	2,281	1,768	1,644	1,560	1,629
Tel-Aviv Univ.	300	1,737	2,293	1,419	1,193	1,282	1,573
Bar-Ilan Univ.	700	1,599	1,585	1,161	1,143	1,268	1,357
Univ. of Haifa	650	1,822	2,000	1,775	1,774	2,082	2,296
Ben-Gurion U.	1,350	2,234	2,358	2,173	2,058	2,042	2,115
Weizmann Inst. of Science	70	60	60	50	50	27	25

* The Faculty of Agriculture in Rehovot, while part of the Hebrew University of Jerusalem, is considered separately from the Hebrew University for this purpose.

In 1989/90 project tutors operated eight tutorial centers in seven universities and one regional college. They were active in 370 schools located in 117 different communities, as set out below:

Tutorial Project Activity - 1989/90

	Coordinators	Schools	Communities	Tutors
Total	283	370	117	11,725
Hebrew University - Total	64	78	16	2,730
Faculty of Agriculture	(24)	(38)	(10)	(1,027)
Technion-IIT	45	54	16	1,629
Tel-Aviv University	34	37	10	1,573
Bar-Ilan University	31	49	19	1,357
University of Haifa	54	87	42	2,996
Ben-Gurion University	54	60	13	2,115
Weizmann Inst. of Science	1	5	1	25

Source: Tutorial Project Administration

The main expenditure of the tutorial project is on scholarships. In 1989/90 the PBC financed about 86% of the scholarships. The remainder are financed by the universities, the Ministry of Education and Culture and other sources.

In 1989/90 the PBC's allocation to the tutorial project was approximately NIS 14.2 million.

The administration of the tutorial project is located in the Weizmann Institute of Science, which provides assistance for the project. A council, appointed by the Minister of Education and Culture, and an administration direct the project. The Ministry of Education and Culture also covers administrative expenses and selects the schools and pupils participating in the project.

8.2
Student Loans

The Students Loan Fund in the Institutions of Higher Education, in which commercial banks were partners, ceased to function in 1984/85. Since 1985/86 the system for loans to students has been financed from the PBC budget. The system is administered by a committee headed by the PBC and with the participation of the Ministry of Education and Culture and the Accountant General of the Ministry of Finance.

The PBC has adopted the criteria for the eligibility for loans that were recommended by the "Katzav Committee". These include: the economic situation of the student's parents, the student's income, the number of family members in the student's home, army service, marital status, and place of residence (i.e., if in a development area).

In 1989/90 6,726 students applied for loans, of whom 5,680 were found eligible. 1,411 loans were in fact implemented, as well as 2,541 grants.

Loans are approved by the department for tuition fees and student loans in the Ministry of Education and Culture and are implemented by commercial banks. Following the 9% increase in tuition fees that took effect in 1989/90 and will continue in 1990/91, the PBC decided to implement the following improvements in the award of student loans and grants:
- The basis for computing loans will be raised by 9%;
- The maximum level of loans will be raised to 100% of tuition fees;
- The standing loans (available to students from development areas) will be replaced by grants.

Conditions for loans have not changed and they continue to be interest-free but linked to the consumer-price-index.

9

OTHER ACTIVITIES AND ALLOCATIONS

9.1
Foreign Students

The Steering Committee for Foreign Students is composed of representatives of the universities and the Jewish Agency and is headed by a member of the PBC. The Jewish Agency finances the budget of the committee.

The functions of the committee are:
a. to determine policy and guidelines for operating programs aimed at increasing the number of Jewish students from abroad in Israeli universities;
b. to allocate the budget for these programs.

The committee's activities include the following:

* **scholarships for students** - Scholarships for undergraduate students and students in special programs are based on the student's socio-economic background; scholarships for graduate students are based on academic excellence.

* **recruitment of students abroad** - The committee supports the recruitment efforts of the universities and Jewish student organizations abroad. Most of the activity is centered in North America but in recent years greater efforts are being made to recruit students from Latin America, South Africa and Europe.

* **academic development in the universities** - The choice of courses offered to foreign students is being expanded in order to suit the courses to the plans and needs of these students.

* **social and cultural activities** - These are intended to enable the students to become acquainted with Israeli people, the land, the State and society.

The budget of the Steering Committee in 1989/90 was $210,000, compared with $70,000 in 1988/89, all of it from the Jewish Agency.

In 1988/89 the relations between the Jewish Agency and the PBC were put in order. The PBC informed the chairman of the Jewish Agency that it would continue to head the Steering Committee for Foreign Students only if the committee would have complete authority and independence in the allocation of the funds put at its disposal by the Jewish Agency and if a way would be found for the Jewish Agency to guarantee its funding of the committee at least a year and a half in advance.

In 1989/90 there were 1,895 foreign students in undergraduate degree programs or special programs (either for one year or one semester) and 233 foreign students in graduate programs. Since the establishment of the Steering Committee in 1982/83 there has been an average annual increase of 13% in the number of foreign students. (See the following tables).

Undergraduate Students from North America in One-Year or One-Semester Programs

	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Total	1,201	1,159	1,280	1,434	1,723	1,837	1,895
Hebrew University	685	608	730	820	936	848	896
Technion	-	-	-	-	7	9	11
Tel-Aviv Univ.	312	306	329	375	384	550	537
Bar-Ilan Univ.	80	83	63	93	95	89	104
Univ. of Haifa	124	108	105	105	122	121	170
Ben-Gurion Univ. of the Negev*	-	54	53	41	66	67	42
Bezalel - Academy of Art & Design	-	-	-	-	-	1	-
Jerusalem College of Technology	-	-	-	-	2	2	7
Shenkar - College of Textile Tech. & Fashion	-	-	-	-	-	1	-
Michlala - Jerusalem Col. for Women	-	-	-	-	110	120	116
Wingate Institute	-	-	-	-	1	3	-

* Includes students in the Boston University Program.
Source: The Steering Committee for Foreign Students

Graduate Students Receiving Scholarships from the Steering Committee for Foreign Students

	1986/87		1987/88		1988/89		1989/90	
	2nd Deg.	Ph.D.	2nd Deg.	Ph.D.	2nd Deg.	Ph.D.	2nd Deg.	Ph.D.
Total	144	45	133	63	118	71	169	64
Hebrew Univ.*	85	13	79	23	52	30	89	27
Technion	30	1	25	1	28	8	26	8
Tel-Aviv Univ.	10	5	16	9	16	9	26	9
Bar-Ilan Univ.	1	2	-	2	-	1	-	1
Ben-Gurion U.	2	4	-	-	2	1	-	6
Univ. of Haifa	10	-	10	-	3	1	6	1
Weizmann Institute**	6	20	3	28	17	21	22	19

* Each year the Hebrew University awards an additional 10 scholarships for doctoral students.

** Each year the Weizmann Institute awards an additional 44 scholarships for master's degree students and 50 for doctoral students.

Source: The Steering Committee for Foreign Students

9.2
Regional Colleges

The regional colleges, which are centers for cultural and instructional activity in areas far from the center of the country, provide academic programs of study for which universities, including the Open University, are responsible academically. The academic responsibility is extended to these programs in order to make higher education more accessible to broader segments of the population and is expressed in the following ways:

* the teaching staff is part of the university staff;
* the program of study is determined by the university;
* requirements for admission are determined by the university;
* study programs are similar to those of the university in the same fields;
* degrees are awarded by the university after students complete their studies there.

Academic programs in regional colleges enable residents of areas that are distant from university campuses to accumulate credit toward an academic degree. The first two years of academic study may be undertaken in a regional college while the third and final year of study leading to a bachelor's degree must be completed at the main university campus. Open University programs enable students to complete all their studies in the regional college.

"Combined Programs" will open in the Tel-Hai, Emek Yezrael and Western Galilee regional colleges beginning with the 1990/91 academic year. These are academic programs run jointly by the University of Haifa and the Open University. They will be open to all holders of a qualified matriculation certificate, resident in the region or elsewhere.

The Ministry of Education and Culture, local authorities and other sources finance the operating expenses of the colleges, while the PBC participates in the financing of the academic coordinator's salary and the overhead expenses of the academic programs. The PBC's allocation is transferred directly to the universities concerned, whereas other financing is transferred to the colleges.

The PBC's allocation to academic programs in regional colleges in 1989/90 amounted to NIS 360,000. The apportionment of this allocation is decided upon by the Council for Higher Education's sub-committee for regional colleges.

A list of the regional colleges where academic programs were held in 1989/90 can be found on page 18.

9.3
Pre-Academic Preparatory Courses

There are different types of pre-academic preparatory courses: pre-academic courses in universities; pre-pedagogic courses in teacher training institutions; and courses for the completion of secondary school studies held in regional colleges.

The aim of the pre-academic preparatory courses is to give a "second chance" to young people, who lack the matriculation certificate or whose secondary school grades were low by preparing them for university admission.

It is hoped that a larger number of students from the lower socio-economic strata of society will thus be admitted to university studies. Students in the pre-academic preparatory courses complete their matriculation examinations and are otherwise assisted in preparing themselves for academic study.

Students in the pre-academic preparatory courses come from two different population groups: those who are defined by certain socio-economic criteria as "worthy of advancement" and those who need to "refresh" their knowledge or complete some of their studies.

The "Association for the Advancement of Education", which is connected with the Ministry of Education and Culture, is responsible for running the courses. The Association maintains regular contact with the PBC, the Ministry of Education and Culture, and the Ministry of Defense. The "Demobilized Soldiers Law" of 1984 gave greater impetus to the courses, which was reflected in a large increase in the number of students in the pre-academic preparatory courses.

The PBC covers tuition costs for students from disadvantaged socio-economic backgrounds who are considered "worthy of advancement", while the Ministry of Education and Culture and the Ministry of Defense cover their living expenses.

Students who are not in the "worthy of advancement" category, about half of the students in the university preparatory courses, must pay tuition fees.

The PBC's allocation in 1989/90 was NIS 4,669,088 (including NIS 536,000, which was the participation of the Ministry of Education and Culture).

The following table shows the number of students in the pre-academic preparatory courses from 1987/88 - 1989/90.

Students in Pre-Academic Preparatory Courses
(At the Beginning of the Academic Year)

	Total Students	Considered "Worthy of Advancement"
1987/88 - Total	4,811	3,290 - 68%
At the universities (Total)	2,298	1,121 - 49%
Hebrew University	382	278
Technion-IIT	630	134
Tel-Aviv University (2)	426	236
Bar-Ilan University (3)	88	80
University of Haifa	465	235
Ben-Gurion University	307	158
At regional colleges (1)	2,513	2,169 - 86%
1988/89 - Total	4,899	3,311 - 68%
At the universities (Total)	2,309	1,122 - 49%
Hebrew University	388	231
Technion-IIT	547	108
Tel-Aviv University (2)	394	195
Bar-Ilan University (3)	125	118
University of Haifa	530	245
Ben-Gurion University	325	225
At regional colleges	1,910	1,672 - 88%
At teacher training colleges	680	517 - 76%
1989/90 - Total	5,986	4,309 - 72%
At the universities (Total)	2,773	1,359 - 49%
Hebrew University	378	245
Technion	671	165
Tel-Aviv University	434	222
Bar-Ilan University	322	276
University of Haifa	549	277
Ben-Gurion University	419	174
At regional colleges	2,272	2,200 - 97%
At teacher training colleges	941	750 - 80

(1) Includes pre-pedagogic courses at teacher training colleges.
(2) Includes the Sharon College.
(3) At Bar-Ilan University's branches in Zefat and Ashkelon.

Source: The Association for the Advancement of Education

9.4

The Special Program in Electronics at Tel-Aviv University

This program for the retraining of practical (non-academic) engineers as electronics engineers opened in 1985/86 with approximately 100 students. In the beginning of the 80's a shortage of electronics engineers was forecast which, it was feared, might impede the development of Israel's electronics industry. This course was planned as an immediate short-term solution to the problem and was to retrain hundreds of students each year, for several years. However, in 1988/89 there were only 183 students in the program.

In view of the growing discrepancy between forecasted and actual demand for the course it was decided in 1988/89 to close the program. 1989/90 will therefore be the last year in which new students are admitted to the program and at the end of the 1990/91 academic year the program will cease entirely.

The PBC allocated NIS 3,000,000 to the program in 1989/90, as a special transfer to Tel-Aviv University.

9.5

The Advancement of Peripheral Hospitals

The PBC held discussions on this subject with officials of the Ministry of Health, the directors of peripheral hospitals (i.e., distant from schools of medicine), and the deans of the schools of medicine in order to strengthen the connections between the peripheral hospitals and the schools of medicine.

In December 1989 an agreement was reached between the Ministry of Health, the General Health Fund and the PBC. This agreement determines the number of positions and the cost outline for this program for the years 1987/88, 1988/89 and 1989/90. The cost of the program will be divided evenly between the three signatories to the agreement. The program covers the cost of approximately 25 academic appointments in the schools of medicine for doctors from peripheral hospitals (14.5 at the Technion in Haifa and 9 at Ben-Gurion University of the Negev).

In order to qualify for financing, the schools of medicine must show that they need the instructional capabilities of doctors from the peripheral hospitals and that the level of equipment found in the departments of hospitals that will serve as teaching departments will be raised.

10

THE PBC AND THE GOVERNMENT AND THE KNESSET

10.1
The Government and Government Ministries

During the year the Chairman of the PBC met with the Prime Minister and other ministers to discuss the problems facing higher education.

10.1.1 Ministry of Education and Culture

The Minister of Education and Culture is ex-officio Chairman of the Council for Higher Education and as such closely follows the work of the PBC and represents the interests of higher education in the Government.

The PBC administration maintains working contact with various departments of the Ministry of Education and Culture on such issues as the academic training of teaching personnel, academic programs in regional colleges, pre-academic preparatory courses and the recognition of foreign academic degrees.

10.1.2 The Ministry of Finance

The PBC maintains close contact with the Ministry of Finance - the Minister, the Director-General, the Budget Department, the Accountant-General's Department, and the official in charge of wages. In 1989/90 discussions centered on the following:

* continued implementation of the long-term plan for the development of the higher education system;
* the budget of the higher education system;
* wage agreements in the public sector (including academic staffs).

10.1.3 The Ministry of Health

Discussions with the Minister of Health and officials of the Ministry centered on subjects common to the health and higher education systems:

* academic appointments to schools of medicine for doctors in peripheral hospitals;

- the shortage of pharmacists and solutions to this problem;
- the supply of and demand for academic study in medicine and para-medical professions.

10.1.4 The Ministry of Economy and Planning

The Chairman and one member of the PBC serve as members of the "Council for National and Economic Planning". This Council was established as part of the Government's reorganization program in this field and was requested to prepare for the Government - in coordination with others involved in planning in government, the economy and in higher education - recommendations for medium and long-term policy in various fields.

10.1.5 The Ministry of Science and Technology

In 1989/90 contacts and exchanges of opinion with the Minister of Science and Technology centered on the National Council for Research and Development and the absorption of new immigrant scientists, as well as other subjects that require periodic coordination between the two offices.

10.1.6 The Ministry of Justice

The Attorney-General advises the PBC on matters affecting the the Council for Higher Education Law.

On June 7 1988 the Council for Higher Education decided to amend its regulations, as set out in paragraph 23 of the Council for Higher Education Law, regarding doctoral programs in universities that are not authorized to award the Ph.D. in all departments. The amended regulations were officially published on November 16 1989.

10.1.7 The Ministry of Immigrants Absorption

Contact was maintained with the Minister of Immigrants Absorption on the subjects of foreign students in the institutions of higher education and the absorption of immigrants in the academic staffs of the universities.

10.1.8 The State Comptrollers Office

The State Comptroller reviews the activities of the PBC and the Council as well as those of the institutions of higher education. In 1989/90 the following subjects were examined in detail: PBC earmarked allocations; pension programs in the higher education system; and the budgets of the universities and the Ben-Gurion Research Center in Sede Boker.

10.1.9 The Ministry of Commerce and Industry

In 1988/89 Ben-Gurion University of the Negev, the Chief Scientist of the Ministry of Commerce and Industry, the PBC and the Ministry of Finance instigated the establishment of a committee to examine the institutes for applied research at the University. The report presented by the committee stressed the urgency, as a first step, of significantly reducing the research and technical staffs of the institutes since they do not contribute to the initiation of applied research projects at the institutes. Proposals for the reorganization of the institutes will be studied only after this first step is completed.

10.2

The Knesset and its Committees

10.2.1 Annual Ceremony for Outstanding Students Held by the Speaker of the Knesset

During Shavuot (the Feast of Weeks holiday) the Speaker of the Knesset held an annual ceremony for outstanding students from all the universities. This ceremony serves as an opportunity for students, teachers and parents to meet and brings the achievements of the higher education system to the attention of the Knesset.

10.2.2 The Education and Culture Committee

The Committee occasionally discusses issues connected with the higher education system. Representatives of the PBC are invited to these meetings.

In 1989/90 the Committee discussed the following: the strike in the universities at the opening of the academic year; university schools of education and the report of the committee that reviewed them; proposals to amend the Council for Higher Education Law; the academic program for practical engineers; psychometric examinations; the future of the bachelor's degree; student dormitories; the State Comptroller's report on the Hebrew University of Jerusalem; and the study of law.

10.2.3 The Finance Committee

The Committee approved the higher education budget.

10.2.4 The Constitution, Law and Justice Committee

During 1989/90 the Committee discussed the proposed amendments to the Bar Association Law. The Minister of Education and Culture, who is ex-officio chairman of the Council for Higher Education, and representatives of the PBC and the universities were invited to a partial debate on the subject of "the special difficulties involved in studying law in Israel".

10.2.5 The Immigration and Absorption Committee

The Committee occasionally discusses subjects that are relevant to the higher education system; representatives of the PBC are invited to these sessions. In 1989/90 the Committee discussed the "brain drain", the emmigration of scientists and students, and preparations for absorbing the wave of immigration from the Soviet Union.

APPENDICES

Appendix 1

Subjects Discussed at Meetings of the PBC in 1989/90

1. Updating of the direct PBC allocations for 1988/89 and budgetary outlines for 1989/90;
2. Requests to establish centers for scientific equipment for basic research;
3. The erosion of academic staff salaries;
4. Requests for centers for scientific equipment for basic research in 1988/89;
5. Approval of PBC allocations for 1989/90;
6. The Ministry of Science and Technology's request for changes in the structure of the higher education budget;
7. Tuition fees in universities;
8. Updating of the development budget for 1988/89 and proposals for the 1989/90 development budget;
9. The PBC's considered opinion to the Council for Higher Education on the opening of a master's degree program in biotechnology at the Technion;
10. The PBC's administrative budget for 1989/90;
11. The academic priorities of Ben-Gurion University of the Negev;
12. A return discussion of the study program in biotechnology at Ben-Gurion University of the Negev;
13. Proposals to disband the Registered Society for Technological Education;
14. The salaries of the staff of the Council for Higher Education;
15. Approval of the ordinary budget for 1989/90;
16. PBC participation in the purchase of a Convex super-computer for the Technion;
17. PBC participation in a construction project at the Open University, as part of the long-term plan;
18. Construction plans at the Weizmann Institute of Science;
19. Financing of the solar energy project (solar tower) at the Weizmann Institute of Science;
20. The PBC's move to new premises;
21. Allocations to encourage the recruitment of young academic staff to the universities;
22. An exchange of opinions on the absorption of the immigration from the Soviet Union;
23. The PBC's considered opinion to the Council for Higher Education on the request of the Ruppin Institute's academic program in economics and management of communal settlements for permission to open a study trend in accounting within the program;
24. The long-range budgetary agreement with Ben-Gurion University of the Negev;

25. Approval of the PBC's administrative balance sheet for 1988/89;
26. Approval of construction plans at Ben-Gurion University of the Negev;
27. Allocations for national centers for scientific equipment;
28. Approval of the Hebrew University's request to participate in the establishment of a center for crystallography;
29. Pensions in the higher education system;
30. The PBC's considered opinion to the Council for Higher Education on the University of Haifa's request to open a doctoral program in sociology and anthropology;
31. PBC participation in the ordinary budgets of the universities according to the output model;
32. Budgetary supplements to the Council for Higher Education - 1989/90;
33. Approval of the Yigal Allon Fellowships for 1990/91;
34. Earmarked allocations for the recruitment of new staff to the faculties of law;
35. The PBC's considered opinion to the Council for Higher Education on the request by Bezalel - Academy of Art and Design, Jerusalem, for permission to admit first-year students to the Department of Photography every year (rather than every other year);
36. A report on the "Aleph" program for computerization of libraries;
37. A report by the chairman of the Steering Committee for Foreign Students;
38. A report by the chairman of the Committee for Regional Colleges
39. Legislative initiatives affecting the higher education system: the amendment to the "Bar Association Law", the proposed "Galilee Law" and the proposed "Colleges Law";
40. Matching allocations for 1988/89 and PBC policy;
41. The proposal for the budget of the institutions of higher education for 1990/91;
42. The request by Jerusalem College of Technology for permission to open a study program in industrial management;
43. Allocations for centers for scientific equipment - the Sub-Micron Research Research Center at the Weizmann Institute of Science;
44. The request by Tel-Aviv University for permission to reorganize its Department of French Culture;
45. The universities' reaction to the amendment of the "Bar Association Law" and its implications on the higher education system;
46. Construction projects at the Technion and Ben-Gurion University of the Negev, to be financed entirely from donations;

47. An evaluation of the response of the Council for Higher Education and the PBC to the amendment of the "Bar Association Law";
48. An evaluation of the Council for Higher Education's policy on undergraduate studies: a proposal to establish a permanent committee for colleges and preparations for the opening of additional institutions of higher education;
49. The report of the "Elkana Committee" that reviewed the university schools of education: the response of the Committee of Heads of Universities and the schools of education to the report and the PBC's recommendations relevant to it;
50. Pharmacy: a retraining program at the Hebrew University of Jerusalem and estimates of future requirments of the economy for pharmacists;
51. A fundamental discussion of the request by the Hebrew University of Jerusalem for permission to open an undergraduate program in communications;
52. Parting from the outgoing Director-General of the Council - Mr. Simcha Landau;
53. Reports of the discussions in the Knesset Education and Culture Committee on the subject of the bachelor's degree;
54. Implementation of the ordinary budgets of the universities for 1988/89;
55. Approval of allocations for the development of university computing centers;
56. University debts as of March 31, 1990;
57. Allocations to reduce accumulated deficits;
58. Approval of construction of the Life Sciences Library at the Weizmann Institute of Science;
59. The program to recruit post-doctoral researchers;
60. Scholarships for doctoral students in the humanities;
61. The absorption of new immigrant scientists and students from the Soviet Union and the approval of an emergency program for the absorption of new immigrants;
62. Updating of the budget for 1989/90;
63. The PBC's considered opinion to the Council for Higher Education on the request by the University of Haifa for permission to open a faculty of law;
64. The recommendations of the Committee for Regional Colleges on the academic program in the Judea and Samaria Regional College, for which Bar-Ilan University is academically responsible;
65. The academic priorities of the University of Haifa;
66. Approval of the PBC's administrative budget for 1990/91;
67. The PBC's proposed budget for the institutions of higher education for 1990/91;
68. Updating of the institutions' budget for 1989/90;
69. Allocations for the purchase of scientific equipment;
70. The program for the recruitment of post-doctoral researchers.

Appendix 2

Subjects Discussed at Meetings of the Council for Higher Education in 1989/90

1. The initiative of the Minister of Science and Technology to reorganize research budgets;
2. The report of the committee that examined the University of Haifa's request to open a faculty of law;
3. The University of Haifa's request to open a master's degree program in Land of Israel studies;
4. The request of the Jewish Theological Seminary of America to maintain a branch in Israel;
5. The request of Ben-Gurion University of the Negev to open a master's degree program in biotechnology;
6. The academic priorities and directions of development of Ben-Gurion University of the Negev;
7. The request by the Center for Technological Education in Holon for accreditation as an independent institution of higher education and authorization to award the degree of "Bachelor of Science in Technical Education" (B.Sc.T.E.);
8. The request of the Hebrew Union College to maintain a branch in Israel;
9. The report of the committee appointed to follow the Music College of the Levinsky Teachers College prior to the accreditation of the program for the training of music teachers and authorization to award the degree of "Bachelor of Education" in musical education;
10. Approval of the award of the degree "Bachelor of Arts" to the graduates of the "Oranim" School of Education at the University of Haifa who will study mathematics with an additional major in the humanities or social sciences;
11. Agreements between institutions of higher education and unaccredited institutions;
12. Amendments to the terms of reference of the Permanent Committee for the Academic Courses in Teacher Training Colleges;
13. An experiment, for one graduating class only, at the Levinsky Teachers College program for elementary school teachers, in order to examine the efficiency of the prototype model;
14. The request of the Covenant Prayer Ministry to maintain an institution in Israel to be called "Jerusalem Christian University", for sudies in English leading to the bachelor's degree;
15. The election of a new member of the PBC - Prof. Gur Ofer;
16. The report of the committee appointed to examine the request of the David Yellin Teachers College for accreditation of its specialization program in Arabic for elementary school and junior high school teachers;

17. The report of the committee appointed to design a "model" for the teaching of Arabic in institutions for the training of teaching personnel;
18. Legislative initiatives affecting the higher education system - the amendment to the "Bar Association Law", the proposed "Colleges Law" and the proposed "Galilee Law";
19. The report of the committee appointed to examine the request of the university of Haifa to award the Ph.D. in sociology and anthropology;
20. Certificate or diploma programs in the universities;
21 A discussion of the request by Bezalel - Academy of Arts and Design for permission to admit first-year students to the Department of Photography each year (rather than every other year);
22. The request of the Ruppin Institute's academic program in economics and mangement of communal settlements to open a study trend in accounting within the academic program;
23. The request by the Council of Heads of Academic Colleges to amend the supplementary studies program leading to the degree "Bachelor of Education";
24. The initiative to amend the "Bar Association Law" (Amendment 5.1 17, 1990);
25. The composition of the committee appointed to examine the request by Ben-Gurion University of the Negev to open a study program in archaeology and anthropology;
26. A disscussion, with the participation of the heads of the universities, of the legislative initiatives affecting the higher education system - the amendment to the "Bar Association Law", the proposed "Colleges Law" and the proposed "Galilee Law";
27. The request by "Oranim" - the School of Education of the Kibbutz Movement - for a permit to open and maintain an institution of higher education leading to the degree "Bachelor of Education";
28. The employment of a public relations service by the Council for Higher Education and the PBC;
29. The election of a chairman for the Planning and Budgeting Committee - Prof. Amnon Pazy;
30. The appointment of a subcommittee to examine the expansion and diversification of academic undergraduate study;
31. The Open University - fields of study and text of the diploma;
32. Approval of the request by the State Teachers College - Seminar HaKibbutzim to separate the program for the training of elementary school and kindergarten teachers into two distinct programs;
33. The study of law - the influence of the private law schools set up by the universities on the Israeli higher education system;
34. The election of a new member of the PBC - Prof. Ernest Krausz.

Appendix 3

Members of the Seventh Council for Higher Education (1989/90)

Mr. Yitzhak Navon [1]	Minister of Education and Culture - Chairman
Justice Mr. Moshe Landau	Deputy Chairman of the Council
Prof. Yosef Aloni [2]	The Weizmann Institute of Science
Prof. Harold Basch	Bar-Ilan University
Prof. Haim Belmaker [3]	Ben-Gurion University of the Negev
Prof. Avraham Blaugrund	Weizmann Institute of Science
Prof. Gavriel Cohen	Tel-Aviv University
Mr. Haim Cohen [10]	Chairman, Natl. Union of Students
Mr. Eliyah de Castro	Representative of the Public
Dr. Meir Dvir	Representative of the Public
Prof. Yehuda Gutman [4]	The Hebrew University of Jerusalem
Prof. David Harel [5]	The Weizmann Institute of Science
Prof. David Horn	Tel-Aviv University
Prof. Elazar Kochva	Tel-Aviv University
Mr. Aharon Langerman	Representative of the Public
Prof. Hava Lazarus-Yafeh	The Hebrew University of Jerusalem
Prof. Chava Lifshitz	The Hebrew University of Jerusalem
Prof. Arie Melnik	University of Haifa
Prof. Shimon Moses	Ben-Gurion University of the Negev
Prof. Mordecai Nisan	The Hebrew University of Jerusalem
Dr. Israel Peled	Representative of the Public
Prof. Yaakov Rand [7]	Bar-Ilan University
Prof. Shlomo Rottem [8]	The Hebrew University of Jerusalem
Prof. Michael Rubinovitch	Bar-Ilan University
Prof. Arnon Shani	Ben-Gurion University of the Negev
Prof. Paul Singer	The Technion - IIT
Prof. Zehev Tadmor [9]	The Technion - IIT
Mr. Danny Tzur	Representative of the Public
Prof. Shlomo Yehuda [6]	Bar-Ilan University
Prof. Ada Zamir [2]	Weizmann Institute of Science
Prof. Jacob Ziv	Chairman of the PBC

[1] Since June 1990 Mr. Zevulun Hammer serves as Minister of Education and Culture and Chairman of the Council.

[2] Prof. Aloni resigned from the Council in November 1989; on January 1 1990 Prof. Zamir was appointed in his place.

[3] Standing in for Prof. Shimon Moses, who is on sabbatical.

[4] Prof. Gutman was on sabbatical during part of the year.

[5] Standing in for Prof. Blaugrund who was on sabbatical during part of the year.

[6] Prof. Yehuda resigned from the Council on March 6, 1990.

[7] Prof. Rand was appointed in June 1990.

[8] Standing in for Prof. Gutman during his sabbatical leave.

[9] Resigned from the Council on June 24, 1990 upon appointment as President of the Technion.

[10] Appointed on August 12, 1990.

Appendix 4

Fields of Study in the Institutions of Higher Education

	Human-ities	Social Sci.	Law	Arts	Social Work	Teacher Train.	Math., Nat. Sci.	Eng., Tech-nology	Agri-cult.	Medi-cine	Den-tistry	Para-Med. Profs.
Hebrew University	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆
Technion-IIT		◆				◆	◆	◆	◆	◆		◆
Tel-Aviv University	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆
Bar-Ilan University	◆	◆	◆	◆	◆	◆	◆					
University of Haifa	◆	◆		◆	◆	◆	◆					◆
Ben-Gurion University	◆	◆			◆	◆	◆	◆		◆		◆
Weizmann Inst. Science							◆					
The Open University	◆	◆					◆					
Bezalel Academy Arts				◆								
Jerusalem Acad. Music				◆		◆						
Jerusalem Coll. Technol.						◆		◆				
Shenkar - Text. & Fash.				◆				◆				
Ruppin Institute		◆										
College of Management		◆										
Teacher Training Colleges						◆		◆				

Appendix 5

Students in Universities[1] 1969/70 - 1989/90 by University and Degree Level

					1989/1990				
	1969/70	1979/80	1984/85	1988/89	Total	Bachelor's Degree	Master's Degree	Ph.D.	Certificate (3)
Total (2)	35,374	54,480	61,155	65,080	67,750	46,770	15,960	3,920	1,100
Hebrew University, Jlm.	12,588	13,570	14,385	16,190	16,780	10,600	4,530	1,420	230
Technion-IIT	6,045	7,580	8,060	8,730	8,810	6,480	1,750	520	60
Tel-Aviv University	7,958	14,380	18,020	18,730	19,420	12,770	5,450	850	350
Bar-Ilan University	4,273	8,070	8,780	8,830	9,330	6,780	1,940	410	200
University of Haifa	2,794	6,140	6,330	6,540	6,880	5,500	1,130	90	160
Ben-Gurion University of the Negev	1,297	4,250	5,080	5,410	5,890	4,640	970	180	100
Weizmann Institute of Science	419	490	500	650	640	-	190	450	-
Percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hebrew University, Jlm.	35.6	24.9	23.5	24.9	24.8	22.7	28.4	36.2	20.9
Technion-IIT	17.1	13.9	13.2	13.4	13.0	13.8	11.0	13.3	5.5
Tel-Aviv University	22.5	26.4	29.5	28.8	28.7	27.3	34.1	21.7	31.8
Bar-Ilan University	12.1	14.8	14.4	13.6	13.8	14.5	12.1	10.4	18.2
University of Haifa	7.9	11.3	10.3	10.0	10.1	11.8	7.1	2.3	14.5
Ben-Gurion University of the Negev	3.6	7.8	8.3	8.3	8.7	9.9	6.1	4.6	9.1
Weizmann Institute of Science	1.2	0.9	0.8	1.0	0.9	-	1.2	11.5	-

(1) Not including the Open University.
(2) Does not include students in special non-degree courses.
(3) Students who study for both a degree and a certificate are counted with the degree students.

Source: Central Bureau of Statistics

Appendix 6

Students in Universities[1] by Field and Level of Study 1969/70 - 1988/89

					1988/89				
	1969/70	1979/80	1984/85	1987/88	Total	Bach. Degree	Master's Degree	Ph.D.	Certificate (3)
Total (2)	33,383	54,480	61,155	64,190	65,080	45,880	14,510	3,820	870
Humanities & Jewish Studies	10,815	16,720	18,094	17,961	17,837	12,746	3,452	940	699
Social Sciences	8,660	15,720	16,865	18,073	18,896	13,189	5,155	419	133
Law	1,774	2,060	2,599	2,270	2,283	2,087	159	37	-
Medicine & Related Fields	1,314	3,080	4,223	4,958	4,850	3,020	1,714	116	-
Nat. Sciences & Mathematics	4,918	7,430	9,727	10,304	10,344	6,378	2,149	1,779	38
Agriculture	510	1,480	1,199	1,118	1,141	704	277	160	-
Engineering & Architecture	5,392	7,990	8,448	9,496	9,729	7,756	1,604	369	-
Percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Humanities & Jewish Studies	32.4	30.7	29.7	28.0	27.4	27.8	23.8	24.6	80.3
Social Sciences	26.0	28.9	27.6	28.2	29.0	28.7	35.5	11.0	15.3
Law	5.3	3.8	4.2	3.6	3.5	4.5	1.1	1.0	-
Medicine & Related Fields	3.9	5.6	6.9	7.7	7.5	6.6	11.8	3.0	-
Nat. Sciences & Mathematics	14.7	13.6	15.9	16.0	15.9	13.9	14.8	46.6	4.4
Agriculture	1.5	2.7	2.0	1.7	1.8	1.5	1.9	4.2	-
Engineering & Architecture	16.2	14.7	13.8	14.8	14.9	16.9	11.1	9.7	-

(1) Does not include the Open University
(2) Does not include students in special non-degree courses.
(3) Students studying for both a certificate and a degree are classified according to the degree.

Source: Central Bureau of Statistics

Appendix 7

Students in Non-University Institutions[1] of Higher Education - 1983/84 - 1989/90

	83/84	84/85	87/88	88/89	89/90
Total	1,621	1,848	1,945	1,915	1,876
Bezalel - Academy of Arts and Design, Jerusalem	616	633	628	654	640
Jerusalem Rubin Academy of Music and Dance	305	392	390	388	386
Jerusalem College of Technology	215	280	343	311	287
Shenkar -College of Textile Technology and Fashion	308	324	359	359	350
Ruppin Institute - Dept. of Economics & Management of Communal Settlements	177	219	225	203	213

(1) Does not include institutions of higher education that are not funded by the PBC - such as teacher training colleges and the College of Management - Academic Course, Tel-Aviv

Source: Central Bureau of Statistics

Appendix 8

Recipients of Degrees from Universities[1] - 1969/70 - 1988/89

I By Institution and Degree Level

	1979/80	1984/85	1987/88	1988/89				
				Total	Bach. Deg.	Mast. Deg.	Ph.D. (3)	Certificate
Total	9,371	11,218	12,557	13,214	9,805	2,466	454	489 (2)
Hebrew Univ.	2,396	3,136	3,157	3,313	2,274	715	152	172
Technion-IIT	1,347	1,404	1,668	1,784	1,378	330	63	13
Tel-Aviv Univ.	2,452	3,272	3,667	3,995	2,930	839	105	121
Bar-Ilan Univ.	1,265	1,308	1,577	1,616	1,270	236	33	77
Univ. of Haifa	1,015	1,173	1,336	1,246	1,033	126	4	83
Ben-Gurion Univ.	775	812	1,037	1,114	920	146	25	23
Weizmann Inst.	121	113	115	146	-	74	72	-
Percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hebrew Univ.	25.6	28.0	25.1	25.1	23.2	29.0	33.5	35.2
Technion-IIT	14.4	12.5	13.3	13.5	14.1	13.4	13.9	2.7
Tel-Aviv Univ.	26.1	29.2	29.2	30.3	29.9	34.0	23.1	24.7
Bar-Ilan Univ.	13.5	11.6	12.6	12.2	12.9	9.6	7.3	15.7
Univ. of Haifa	10.8	10.5	10.6	9.4	10.5	5.1	0.9	17.0
Ben-Gurion Univ.	8.3	7.2	8.3	8.4	9.4	5.9	5.5	4.7
Weizmann Inst.	1.3	0.8	0.9	1.1	-	3.0	15.8	-

(1) Does not include the Open University.
(2) A further 383 certificates were awarded to recipients of degrees.
(3) Recipients of the degree "Doctor of Medicine" are counted with recipients of master's degrees.

Source: Central Bureau of Statistics

II By Field of Study and Degree Level

	1979/80	1984/85	1987/88	1988/89				
				Total	Bach. Deg.	Mast. Deg.	Ph.D. (3)	Certificate
Total	9,371	11,218	12,557	13,214	9,805	2,466	454	489 (2)
Humanities & Jewish Studies	2,741	3,312	3,374	3,466	2,504	431	75	456
Social Sciences	2,808	2,879	3,479	3,733	2,845	825	36	27
Law	301	505	504	469	448	15	6	-
Medicine & Related Fields	459	822	987	1,098	737	342	19	-
Natural Sciences & Mathematics	1,342	1,816	2,154	2,223	1,467	502	248	6
Agriculture	231	399	233	290	214	53	23	-
Engineering & Architecture	1,489	1,485	1,826	1,935	1,590	298	47	-
Percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Humanities & Jewish Studies	29.2	29.5	26.9	26.2	25.5	17.5	16.5	93.3
Social Sciences	30.0	25.7	27.7	28.3	29.0	33.4	7.9	5.5
Law	3.2	4.5	4.0	3.5	4.6	0.6	1.3	-
Medicine & Related Fields	4.9	7.3	7.9	8.3	7.5	13.9	4.2	-
Natural Sciences & Mathematics	14.3	16.2	17.2	16.8	15.0	20.4	54.6	1.2
Agriculture	2.5	3.6	1.8	2.2	2.2	2.1	5.1	-
Engineering & Architecture	15.9	13.2	14.5	14.7	16.2	12.1	10.4	-

(1) Does not include the Open University.
(2) A further 383 certificates were awarded to recipients of degrees.
(3) Recipients of the degree "Doctor of Medicine" are counted with recipients of master's degrees.

Source: Central Bureau of Statistics

Appendix 9

The Open University
Registration in Academic Courses and Graduates
By Year and Field of Study - 1984/85 - 1989/90

	Registration in Academic Courses		
	Total	Humanities & Social Sciences	Natural Sciences & Mathematics
1984/85	12,034	8,166	3,868
1985/86	11,914	8,139	3,775
1986/87	13,506	7,969	5,535
1987/88	10,853	7,507	3,346
1988/89	11,872	8,560	3,312
1989/90	13,007	9,645	3,362

	Graduates		
	Total	Humanities & Social Sciences	Natural Sciences & Mathematics
1984/85	101	64	37
1985/86	132	75	57
1986/87	227	107	120
1987/88	194	90	104
1988/89	281	153	128
1989/90	-	-	-

Source: Central Bureau of Statistics

Appendix 10

Recipients of Degrees From Non-University Institutions of Higher Education[1] - 1983/84 - 1989/90

	1983/84	1984/85	1987/88	1988/89	1989/90
Total	335	318	334	372	345
Bezalel - Academy of Arts & Design, Jerusalem	134	104	105	135	99
Jerusalem Rubin Academy of Music and Dance	44	37	46	64	57
Jerusalem College of Technology	19	65	51	68	84
Shenkar - College of Textile Technology and Fashion	86	62	66	44	56
Ruppin Insitute - academic course	52	50	66	61	49

(1) Does not include students in institutions that are not funded by the PBC (teacher training colleges and the College of Management - Academic Course, Tel Aviv).

Source: Central Bureau of Statistics

Appendix 11

Active University Staffs[1]

I Annual Averages 1984/85 - 1988/89 According to Budgetary Source

		All Budgets				Total Employees Financed from Ordinary Budget	Total Employees Financed from Other Budgets
		Total Employees	Total Teaching & Research Staff	Total Technical Staff	Total Administrative Staff		
All Universities	- 1984/85	17,792	7,912	3,321	6,559	14,210	3,582
(4)	1987/88	17,297	7,611	3,589	6,103	13,698	3,599
	1988/89	17,115	7,575	3,531	6,009	13,596	3,518
Hebrew University	- 1984/85	5,359	2,289	731	2,339	3,931	1,428
	1987/88	4,842	2,166	682	1,994	3,387	1,455
	1988/89	4,754	2,110	648	1,996	3,328	1,426
Technion (2)	- 1984/85	2,979	1,304	832	843	2,374	605
	1987/88	2,748	1,082	870	796	2,132	616
	1988/89	2,690	1,049	865	777	2,093	597
Tel-Aviv University	- 1984/85	3,978	2,176	436	1,366	3,352	626
	1987/88	4,009	2,140	635	1,235	3,520	489
	1988/89	4,021	2,142	644	1,235	3,542	479
Bar-Ilan University	- 1984/85	1,418	689	104	625	1,275	143
	1987/88	1,439	729	147	563	1,299	140
	1988/89	1,449	736	147	567	1,303	146
University of Haifa	- 1984/85	829	439	36	354	769	60
	1987/88	907	496	39	372	826	81
	1988/89	909	508	40	361	821	80
Ben-Gurion University of the Negev (3)	- 1984/85	1,508	626	326	556	1,162	346
	1987/88	1,632	654	353	625	1,229	403
	1988/89	1,614	666	347	601	1,230	384
Weizmann Institute of Science	- 1984/85	1,721	389	856	476	1,347	374
	1987/88	1,720	344	856	520	1,305	415
	1988/89	1,679	365	841	473	1,280	399

(1) Only active staff employed on a monthly basis. (Does not include those on fellowships, pensioners, those employed on a daily or contractual basis, etc.)
(2) Includes the Technion Research and Development Authority.
(3) Includes the Research and Development Authority.
(4) Corrected data.

Source: Data supplied by the universities.

II Employees[1] in the Universities 1987/88 - 1988/89

	1987/88	1988/89	Difference	Difference(%)
Grand Total	17,297.1	17,114.6	-182.5	-1.1%
A. Teaching & Research Staff - Total	7,610.6	7,574.6	-36.0	-0.5%
1. Senior Academic Staff - Total	4,340.6	4,365.1	24.5	0.6%
Full Professor	1,049.5	1,061.6	12.1	1.2%
Associate Professor	1,072.9	1,103.6	30.7	2.9%
Senior Lecturer	1,326.8	1,304.9	-21.9	-1.7%
Lecturer	891.4	894.8	3.4	0.4%
2. Junior Academic Staff - Total	1,106.8	961.4	-145.4	-13.1%
Senior Instructor	143.7	113.6	-30.1	-20.9%
Instructor	514.4	451.7	-62.7	-12.2%
Assistant "B"	250.5	216.8	-33.7	-13.5%
Assistant "A"	198.2	179.4	-18.8	-9.5%
3. Research and Teaching Assistants	1,009.3	993.4	-15.9	-1.6%
4. Other Teaching and Research Staff	1,153.9	1,254.8	100.9	8.7%
Clinical Teachers	90.6	90.2	-0.4	-0.4%
Teachers	183.3	167.0	-16.3	-8.9%
External Teachers	728.9	833.8	104.9	14.4%
Others	151.1	163.7	12.6	8.3%
B. Technical Staff - Total	3,582.8	3,530.9	-51.9	-1.4%
1. Engineers	668.9	682.5	13.6	2.0%
2. Technicians	1,755.1	1,723.3	-31.8	-1.8%
3. Microbiologists & Laboratory Assistants	918.6	880.2	-38.4	-4.2%
4. Special Contract	222.8	225.4	2.6	1.2%
5. Others	17.5	19.5	2.0	11.4%
C. Administrative Staff - Total	6,103.6	6,009.4	-94.2	-1.5%
1. General Administation	4,159.7	4,099.6	-60.1	-1.4%
2. Humanities & Social Science Graduates	1,606.3	1,605.4	-0.6	0.0%
3. Special Contract	188.0	161.5	-26.5	-14.1%
4. Other	66.3	62.3	-4.0	-6.0%
5. Apprentices	83.4	80.0	-3.4	-4.1%

(1) Full-time equivalents of all salaried employees.

Source: Data supplied by the universities.

III-A Employees[1] in 1988/89 - From the Ordinary Budget By Institution and Rank

	All Universities	Hebrew Univ.	Technion-IIT	Tel-Aviv Univ.	Bar-Ilan Univ.	Univ. of Haifa	Ben-Gur. Univ.	Weizmann Ins. Sci.
Grand Total	13,596.4	3,327.7	2,092.6	3,541.6	1,302.9	821.3	1,230.3	1,280.1
A. Teaching & Research Staff - Total	6,477.7	1,618.0	928.2	1,987.9	638.6	467.7	569.4	267.9
1. Senior Academic Staff - Total	3,889.1	1,040.9	525.5	919.0	454.0	302.5	381.2	266.0
Full Professor	1,019.1	354.6	162.8	233.7	67.1	32.7	72.4	95.9
Associate Professor	1,052.5	257.7	190.2	248.8	105.4	60.6	103.0	86.8
Senior Lecturer	1,158.2	242.3	129.0	293.6	171.2	125.9	132.4	63.8
Lecturer	659.3	186.3	43.5	142.9	110.3	83.3	73.5	19.5
2. Junior Academic Staff - Total	781.1	207.6	80.7	252.0	117.3	25.3	98.2	0.0
Senior Instructor	91.5	12.2	7.7	38.3	26.8	4.7	1.8	0.0
Instructor	369.0	87.9	72.4	112.2	45.7	10.3	40.6	0.0
Assistant "B"	200.7	82.7	0.0	62.7	18.0	5.5	31.8	0.0
Assistant "A"	119.8	24.8	0.6	38.8	26.8	4.8	24.0	0.0
3. Research and Teaching Assistants	868.6	300.7	13.9	485.2	6.0	46.7	16.1	0.0
4. Other Teaching and Research Staff	938.9	68.8	308.1	331.7	61.3	93.2	73.9	1.9
Clinical Teachers	89.2	0.3	29.4	59.5	0.0	0.0	0.0	0.0
Teachers	61.2	8.3	2.0	5.0	0.0	38.7	7.2	0.0
External Teachers	739.8	60.2	276.7	267.2	57.6	11.4	66.7	0.0
Others	48.7	0.0	0.0	0.0	3.7	43.1	0.0	1.9
B. Technical Staff - Total	2,413.5	421.3	570.2	390.9	142.8	38.8	231.3	618.3
1. Engineers	409.3	60.0	129.6	69.0	7.9	12.6	67.6	62.7
2. Technicians	1,374.0	168.8	389.7	190.2	114.4	21.6	147.2	342.1
3. Microbiologists & Laboratory Assistants	606.1	192.5	50.9	113.0	20.5	4.6	11.1	213.5
4. Special Contract	5.6	0.0	0.0	5.6	0.0	0.0	0.0	0.0
5. Others	18.6	0.0	0.0	13.1	0.0	0.0	5.5	0.0
C. Administrative Staff - Total	4,705.2	1,288.4	594.2	1,162.8	521.5	314.8	429.6	393.9
1. General Administation	3,304.2	845.6	439.8	800.6	367.1	209.6	291.8	349.7
2. Humanities & Social Science Graduates	1,260.7	384.2	154.4	352.8	139.3	98.2	105.2	26.6
3. Special Contract	45.8	9.1	0.0	5.6	15.1	4.0	5.5	6.1
4. Other	35.3	12.4	0.0	3.8	0.0	3.0	10.0	6.1
5. Apprentices	59.6	37.1	0.0	0.0	0.0	0.0	17.1	5.4

(1) Full-time equivalents of salaried employees.

Source: Data supplied by the universities.

III-B Employees[1] in 1988/89 - From Other Budgetary Sources By Institution and Rank

	All Universities	Hebrew Univ.	Technion-IIT	Tel-Aviv Univ.	Bar-Ilan Univ.	Univ. of Haifa	Ben-Gur. Univ.	Weizmann Ins. Sci.
Grand Total	3,518.0	1,425.9	597.0	479.4	146.2	87.4	383.5	398.6
A. Teaching & Research Staff - Total	1,096.7	491.6	120.3	154.3	97.0	40.2	96.0	97.2
1. Senior Academic Staff - Total	475.8	244.8	58.5	17.8	15.6	6.3	56.2	76.8
Full Professor	42.5	15.1	5.7	2.3	0.0	0.0	13.5	6.0
Associate Professor	51.1	15.3	7.2	4.2	2.3	0.2	13.5	8.4
Senior Lecturer	146.8	74.4	16.4	5.6	4.6	2.8	11.4	33.6
Lecturer	235.5	140.0	31.2	5.7	8.7	3.3	17.9	28.8
2. Junior Academic Staff - Total	180.2	88.8	55.4	2.0	14.9	2.3	16.8	0.0
Senior Instructor	22.0	14.3	0.0	0.5	5.3	0.1	1.9	0.0
Instructor	82.6	32.5	36.7	1.5	4.8	0.0	7.1	0.0
Assistant "B"	16.0	7.0	3.8	0.0	1.1	0.1	4.1	0.0
Assistant "A"	59.6	35.0	14.9	0.0	3.7	2.1	3.8	0.0
3. Research and Teaching Assistants	124.8	97.0	2.5	4.5	2.6	17.4	0.8	0.0
4. Other Teaching and Research Staff	315.8	61.0	3.9	130.0	63.9	14.3	22.3	20.4
Clinical Teachers	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Teachers	105.3	36.7	0.0	60.9	0.0	1.3	6.9	0.0
External Teachers	94.1	24.3	2.9	6.3	39.8	5.3	15.4	0.0
Others	115.0	0.0	0.0	62.8	24.1	7.7	0.0	20.4
B. Technical Staff - Total	1,117.4	226 5	294.3	253.4	4.3	0.7	115.8	222.4
1. Engineers	273.2	70.1	105.9	19.5	0.1	0.0	42.7	34.9
2. Technicians	349.3	46.6	181.2	14.1	2.4	0.5	62.8	41.7
3. Microbiologists & Laboratory Assistants	274.1	109.8	7.2	0.0	1.8	0.2	9.4	145.8
4. Special Contract	219.8	0.0	0.0	219.8	0.0	0.0	0.0	0.0
5. Others	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.0
C. Administrative Staff - Total	1,304.0	707.8	182.4	71.7	45.0	46.5	171.6	79.0
1. General Administation	795.4	415.7	143.1	33.3	17.7	29.2	104.1	52.4
2. Humanities & Social Science Graduates	345.0	215.5	36.3	7.0	5.6	16.4	56.0	8.2
3. Special Contract	116.1	62.1	0.0	31.4	21.7	0.9	0.0	0.0
4. Other	27.0	3.6	0.0	0.0	0.0	0.0	6.1	17.3
5. Apprentices	20.5	10.9	3.0	0.0	0.0	0.0	5.4	1.1

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(1) Full-time equivalents of salaried employees.

Source: Data supplied by the universities.

Appendix 12

Staff in Non-University Institutions of Higher Education - 1984/85 - 1989/90
(Full-Time Positions)

		Total	Academic Staff	Administrative and Technical Staff
Bezalel, Academy of Arts & Design, Jerusalem	1984/85	150	72	78
	1985/86	147	71	76
	1986/87	148	76	72
	1987/88	136	66	70
	1988/89	145	73(1)	72
	1989/90	148	76	72
Jerusalem Rubin Academy of Music and Dance	1984/85	84	67	17
	1985/86	84	67	17
	1986/87	85	68	17
	1987/88	84	65	19
	1988/89	86	65	21
	1989/90	90	69	21
Jerusalem College of Technology	1984/85	86	46	40
	1985/86	91	45	46
	1986/87	102	49	53
	1987/88	99	46	53
	1988/89	92	44	48
	1989/90	90	44	46
Shenkar - College of Textile Technology and Fashion	1984/85	93	41	52
	1985/86	90	41	49
	1986/87	90	43	47
	1987/88	74	36	38
	1988/89	74	37	37
	1989/90	75	39	36

(1) Amended + teaching assistants.

Source: Data supplied by the institutions.

Appendix 13

Built-up Areas in the Universities - 1989/90
(Gross Area in Square Meters)

	Total Area of Buildings (1)	Total Buildings for Teaching and Research						Services for Students & Staff (3)	Student Dormitories (4)
		Total	Joint Services (2)	Humanities & Social Sciences	Natural Sciences	Medicine	Technology		
All Universities - Total	1,431,900	1,088,600	175,300	293,700	333,400	122,300	163,900	84,900	258,400
Hebrew University (5)	465,000	310,000	50,000	102,000	108,000	50,000	-	40,000	115,000
Technion - IIT	300,500	230,100	34,300	-	36,700	30,000	129,100	15,100	55,300
Tel-Aviv University	250,000	216,300	15,500	85,300	61,600	34,400	19,500	8,000	25,700
Bar-Ilan University	106,200	79,800	25,900	37,000	16,900	-	-	7,600	18,800
University of Haifa	76,100	61,700 (6)	- (7)	61,700	- (7)	-	-	4,900	9,500
Ben-Gurion University of the Negev	130,400	96,700	38,600	7,700	27,200	7,900	15,300	5,600 (7)	28,100
Weizmann Institute	103,700	94,000	11,000	-	83,000	-	-	3,700 (8)	6,000

(1) Does not include underground areas for transportation, parking and pipes.

(2) Includes buildings such as: central library, central auditorium, administration, plant management, machine rooms, etc.

(3) Includes restaurants, sports installations, health and other services.

(4) Does not include staff housing, except for dormitories for participants in training programs.

(5) Does not include areas whose designated use is undergoing change.

(6) Includes areas not in use (reserves) or rented out.

(7) In addition there are areas included in other categories.

(8) Does not include housing for visiting staff members (9,600 sq. meters) and staff housing.

A SUMMARY OF THE ACTIVITIES OF THE PLANNING AND BUDGETING COMMITTEE

1985-1990

A Review by the Chairman

A Statement by the Outgoing Director-General

A REVIEW BY THE CHAIRMAN

This summary covers the activities of the PBC during the five year period beginning in December 1985 and concluding with the writing of this summary in late December 1990. It should be viewed as the continuation of the summaries written by my predecessors in office, Nathan Rotenstreich and Haim Harari, who established the principles and layed the groundwork for the activities of the PBC and its status as an independent, non-political government body presenting its position before the Government, government ministries and Knesset committees and serving as a buffer between the government system and the university system.

The PBC and the institutions of higher education

The PBC's authority in the distribution of government funds to the higher education system is, in effect, unlimited. The true test of the PBC is therefore in its ability to limit itself and to refrain from using the budgets of the institutions of higher education, which it must approve, as a means of dictating its wishes to them.

The PBC's basic approach is to allow the institutions the freedom to act within the confines of their budgets, as long as they don't deviate from them. At times the PBC encourages activity in certain subjects that it views as important by means of special allocations.

The PBC employs allocations such as these as the primary expression of its planning priorities. On the other hand it may recommend to the Council for Higher Education that the Council block proposals for academic development that require extra budgets, needlessly duplicate existing programs, or that contradict the PBC's planning considerations, such as the promotion of institutions of higher education outside of the greater Tel-Aviv area. Development together with cautious determent have characterized the method of the PBC since its founding.

These measures are taken while maintaining a constant dialogue with the institutions themselves. In many cases this dialogue led to mutual agreement, but there were also instances in which agreement was not reached. Sometimes the management of an institution of higher education asks that the PBC dictate the apportionment of the budget available to it. The PBC refuses to do this, preserving the principle of administrative autonomy for the institutions, within their approved budgets. In such cases the PBC calls on the institution to determine its own priorities and act accordingly - promoting some subjects and cutting back on others that it feels are less vital.

Of course it is neither practical nor fair to demand from the institutions long-term planning if the PBC is unable to ensure long-term budgetary frameworks, with provisions for real and gradual, if modest, growth for every institution of higher education funded by it.

The adoption by the Ministry of Finance of the PBC's long-term program for the advancement of the higher education system, even if at a slower pace than requested by the PBC, enabled the PBC to switch to long-range budgeting and to reach long-term agreements with the institutions. These agreements were accompanied by a call to each institution to determine its academic priorities and to refrain from deviating from the long-term budgetary outlines set out in the agreements.

This new policy characterizes more than anything else the past five year period, in all aspects of PBC-university relations.

The first long-term agreement, between the PBC and the Hebrew University of Jerusalem, did much to contribute to the rehabilitation of the University without burdening other universities. Since then, similar agreements have also been reached with other institutions.

The PBC and the Ministry of Finance

The stormy period in the relationship between the PBC and the Ministry of Finance came to an end in 1984. The turning point came with the signing of an agreement for a modest addition to the higher education budget and the transfer of government funds on time. The PBC, for its part, undertook to ensure that the institutions of higher education would stay within the confines of regular, agreed-upon and balanced budgetary outlines.

At the end of the 1984/85 academic year it became clear that both sides had honored the agreement. Against the background of a new feeling of mutual trust, the PBC launched a long-term program for the advancement of the higher education system and research. The PBC regarded this program as the braking stage in the continued erosion of support for scientific research, libraries, and scientific equipment, and as the budgetary expansion necessitated by the increase in the number of students and the expected retirement of a significant number of faculty members.

At the same time, the Minister of Education and Culture, Mr. Yitzhak Navon, initiated a Cabinet discussion of the plight of higher education and basic research in Israel. Two sessions of the Government were devoted to this subject. The chairman of the PBC and the president of the Israel Academy of Sciences and Humanities took part in these sessions.

These discussions did not result in any decisions but there was general agreement on the importance of higher education and research as one of the foundations of the State of Israel.

After lengthy deliberations, the Ministry of Finance adopted the PBC`s long-term program in principle and agreed to undertake the long-term budgetary commitments necessary for the implementation of the program.

It must be stressed that this agreement is quite unusual in the area of budgets in Israel. It is based on the assumption that in the higher education system (as in the defense system and other infrastructure systems) basic investments and planning efforts bear fruit only after several years and, as a result, it is not possible to plan and develop without a certain degree of clarity regarding budgetary forecasts for a number of years to come or the knowledge that future budgets will be adjusted to compensate for inflation.

At first the higher education system greeted the PBC's policy with a measure of doubt and criticism based on past experience and the experiences of others who had been promised large-scale immediate government aid. Some thought, in view of the "take-what-you-can" reality prevalent in the Israeli economy, that the PBC was courting danger by relinquishing the chance for substantial one-time support now in return for promises which might or might not be fulfilled.

However, it turns out that the program is indeed being implemented. Current agreements will generate for the higher education system an increase of approximately 17%, in real terms, over the budget for 1986/87. NIS 70 million have been added to the annual budget base - a very significant addition.

The level of the budget in 1991/92 will be similar to that of twelve years ago and will even surpass it at a rate similar to that of the increase in the number of students since that time, taking into consideration increased income due to higher tuition fees.

The long-term work patterns established between the PBC and the Budget Department of the Ministry of Finance enable them to work together to devise a special long-term plan to provide for the expected increase in the size of the higher education system by the 1994/95 academic year due to immigration. The PBC will also present an additional long-term plan, which may be considered the continuation of the present plan and will carry it from the braking stage to the stage of preparing university research and instruction for the coming decade.

It is appropriate here to thank the staff of the Budget Department of the Ministry of Finance who have become partners in the formulation of the long-term program and are justifiably proud of its success to date.

My particular thanks to Mr. Aharon Fogel and Mr. Moshe Haba who "nursed" the program in its infancy, and to David Boaz, Ohad Marani and Shai Talmon who have stayed with it since then.

Tuition fees

Tuition fees in universities and institutions of higher education funded by the PBC were set by a public committee in 1986/87, but in 1987/88 and 1988/89 the Government determined their level. In 1989/90 tuition fees were determined by an agreement between the universities, the Ministry of Finance, and students, which was initiated by the Minister of Education and Culture, Mr. Yitzhak Navon.

Even though tuition fees have risen considerably in real terms and are now at a level that approaches their level in the beginning of the 70's, they do not cover the full costs of teaching in the least expensive subjects (such as law or philosophy) in the universities.

At the same time, the level of tuition fees now nearly covers current teaching costs in the Open University and in regional colleges that hold academic courses on behalf of universities (some in cooperation with the Open University in joint programs). This fact is critical in the planning of the expected wide-scale expansion of the activities of the Open University and the accelerated development of the joint programs in the regional colleges, as well as the opening of joint courses in urban colleges.

In the past the PBC formulated a clear policy: students were expected to bear a reasonable share of the cost of their studies, either by paying fees at the time of study or by returning loans after completion of their studies. The PBC also favored raising tuition fees to a level that would approach the cost of maintaining those fields of study which are the least expensive. The intention was that the fees paid by a student of philosophy, for example, which is an inexpensive field, would cover the major share of the expenses involved in maintaining his field of study, while a student of engineering or the natural sciences would pay the same tuition fees but his studies would be subsidized due to the high cost of these fields. An 80% rise in the level of tuition fees would be necessary for the full cost of study in the least expensive fields to be defrayed by tuition fees.

Differential tuition fees

The PBC did not regard differential tuition fees - differing according to the field of study - to be a suitable solution although it may, perhaps, be considered for a limited number of fields in which the cost of study is high and the student has the prospect of a high income after graduation.
Under no circumstances, however, should a student in the humanities or social sciences be expected to subsidize the studies of a fellow student in one of the more expensive fields.

The uniform tuition fees charged today represent a selective subsidy by the PBC, primarily for engineering, the natural sciences, and medicine, while students in the humanities or social sciences cover a large part of the cost of their studies. There is nothing wrong with this arrangement.

Graduated tuition fees

The PBC has always been opposed to graduated tuition fees - varying according to the student's financial situation - because of the impracticality of determining a student's financial situation. On the one hand, a student from a well-off family, with no income of his own, should not receive substantial concessions; on the other hand, an adult must not be forced to live at his parents' expense in order to become, according to this definition, eligible for support.

There is, of course, no way of judging the economic situation of an adult according to the economic situation of his parents. Student organizations have reached a similar conclusion and have always, in the end, supported uniform tuition fees; such was the case in the public committees headed by Yitzhak Navon (1976/77) and Moshe Katzav (1981/82).

Loans and aid to students

There are, of course, students who are unable to afford tuition fees at their current level, even if they do not cover the full cost of the least expensive field of study. For the benefit of these students the Students Loan Fund offers loans according to socio-economic criteria and the institutions also maintain assistance programs.

In recent years the PBC has expanded the tutorial project ("Perach") considerably and has increased aid and loan programs for eligible students so that tuition fees are now fully covered. The possibility of a "loans for all" program, offering loans equivalent to half of tuition fees, should also be considered.

Wages

This subject is also one that the PBC has been pulled into lately unwillingly, but with no choice. This subject, however, has serious consequences for the budgeting of the higher education system; ignoring it and the fact that staff wages are the main budgetary outlay of the system would make the PBC's agreements - with the institutions and with the Ministry of Finance - devoid of content.

Administrative and technical staffs are employed according to nation-wide civil service wage agreements. The PBC's task, fully coordinated with the Director of Wages in the Ministry of Finance, is to ensure that there are no deviations from these agreements. Wages of the academic staffs are determined separately from general university wages since their structure has far-reaching academic consequences. The PBC promoted the linkage of academic staff wages to the wages of the upper quarter of engineers and humanities and social science graduates employed in the public sector. This was done in order to stop the erosion of academic staff wages compared with those of other public service groups; an agreement to this effect was reached, in accord with the Director of Wages in the Ministry of Finance, early in 1986, after intensive negotiations. It did not improve academic staff wages in real terms, nor did it solve the problem of distortions inherent in the wage structure, but it did ensure that relative erosion would not occur, preventing upheavals in labor relations between academic staffs and the universities during the past five years.

Despite the fact that this agreement prevents relative erosion of academic staff wages, the problems inherent in the structure of academic staff wages remain. The wage structure does not allow for proper compensation for excellence. Academic staff wages must be raised considerably and, at the same time, sabbatical leave must, at least partially, become a grant to be awarded at the discretion of the university according to purely academic considerations, rather than a right granted to academic staff members in their contracts. The cost of research in the universities would rise during a transitional period lasting a number of years, but would ultimately improve the conditions for research work of young staff members and those very active in research. This must, of course, be accomplished together with an increase, in real terms, in academic staff wages and changes in the structure of wages; otherwise staff will find themselves losers either way.

The PBC initiated the beginning of this process during discussions on wage agreements two years ago, but the Director of Wages in the Ministry of Finance requested that the matter be put on hold pending negotiations on the implementation of the report of a public committee appointed to study public sector wages in general.

The current wage agreement is long-term and academic staff unions must decide if it should be revoked. The wage agreement has also brought about a marked improvement in the pensions of academic staff members who retire, since all wage components are now taken into consideration when determining pensions.

Budgetary pensions

The financial difficulties of some universities have raised the question of the ability of those universities that still have budgetary-pension systems (the Hebrew University of Jerusalem, the Technion and Tel-Aviv University) to fulfill their actuarial obligations to their staff members.

The PBC appointed a committee, headed by Mr. Simcha Soroker and composed of representatives of the Ministry of Finance and the institutions of higher education, to study the subject. The committee called for the transfer of the staffs of these universities to an external pension fund as of a specified date (the date suggested was the end of 1990). The PBC accepted the committee's recommendations after the Ministry of Finance undertook to cover any additional costs incurred by the universities for payments to the fund and for setting up the machinery that will enable the Ministry of Finance to guarantee the actuarial obligations of these institutions to their staffs during a transitional period.

It is clear that such an arrangement can be implemented only with the consent of the staffs and managements of the institutions and after negotiations with them.

A number of months ago the PBC called upon these institutions to begin active negotiations with their staffs in accordance with the committee's recommendations. I am sorry to state that as these lines are being written no progress has yet been made in this subject, which would ensure the financial security of pensioners of the institutions of higher education both now and in the future.

Allocations for research

As part of its long-range program, the PBC decided to increase substantially the allocation of resources for the promotion of basic research in the universities.

The Basic Research Fund

The PBC's allocation to the Basic Research Fund, which is operated by the Israel Academy of Sciences and Humanities, has increased considerably since 1987/88 - it has tripled during this period, from $3 million annually initially to $9 million in 1990/91. The PBC has undertaken to increase the allocation even more, to $11 million by 1992/93.

Centers for Scientific Equipment

The PBC has begun a new project for the establishment of national centers for scientific research. $2.4 million were already allocated for this purpose in 1988/89. An additional million dollars were allocated during 1989/90 and more requests are being examined. Most of the centers for scientific research that are already under construction will employ up-to-date research techniques to study the structure of matter - from the level of the single atom to the structure of the most complex proteins in the living cell.

Requests for grants are reviewed by independent scientific referees who examine the request and the qualifications of those making it and evaluate the need for the equipment from the viewpoint of national scientific research.

Super Computers for Fast Computing
The PBC has allocated $ 3 million in the past three years for the gradual and coordinated installation of three or four small supercomputers in university computing centers, while hastening development of the inter-university communications network. The PBC also set up a special committee that will formulate long-term policy regarding rapid computing and will deal with allocations for this subject in coming years.

Post-Doctoral Studies
The PBC decided to support post-doctoral studies as part of its policy of significantly increasing support for university research; much experimental research is based on the work of young scientists who have just completed their doctoral studies. Support for post-doctoral studies should strengthen and promote basic research while helping the institutions of higher education to bring together larger research teams, vital for promoting experimental research in a number of disciplines.

The total number of PBC grants for post-doctoral support is 74. The value of each grant is equivalent to $16,000 a year for a maximum of two years. $1,200,000 were already allocated for this purpose in 1989/90.

The PBC continues its limited support for two additional funds that finance research in the universities - one in cooperation with the Ministry of Defense and one in cooperation with the Atomic Energy Agency.

Yigal Allon Fellowships

The prestigious Yigal Allon Fellowships Project, now marking the completion of its first decade, ensures the entry of the best young researchers each year into the higher education system. The quality of fellows selected is rising from year to year. Approximately 25-30 fellows are chosen each year; the fellowship finances their academic positions for a period of three years and is accompanied, in the first year, by a research grant. PBC allocations for the fellowships approach $ 3 million each year.

Over two hundred Yigal Allon Fellows are now employed in the higher education system in all fields of research. Unfortunately, I must point out that not all those who have been awarded fellowships in fact take them up and a small number of outstanding researchers who have been awarded fellowships have neither taken them up nor returned yet from abroad.

In Summary: The PBC's total annual allocation for research on a competitive basis is approximately $18 million - double the amount that the PBC allocated for these purposes before the advent of the long-range budgetary plan. This is indeed a remarkable increase but is not, in itself, sufficient for the needs of basic research in the universities. The PBC hopes that a way will be found to fulfill the recommendation regarding an expansion of allocations to the Basic Research Fund and the PBC's other, competitive, allocations for basic research to $30 million per year; this can be part of the continuation of the long-range plan when the time comes.

Matching allocations

Matching allocations stem from the 1960's. At that time Ministers of Finance used to award a pound of government funds for every pound from donations. By the end of the 1970's this arrangement was already limited to contributions not intended for construction; in 1981/82 the PBC changed its method of computing the matching allocations and limited them to 7% of the value of endowment funds.

In recent years the Ministry of Finance has made it clear that it no longer views the incentive of matching allocations as beneficial for the country's balance of payments. On the other hand, the PBC can, if it thinks that this incentive is important for the higher education system, allocate appropriate funds for it as it sees fit from the general higher education budget. The PBC's efforts to convince the Ministry of Finance to continue allocating funds for this purpose have failed; many other sectors in the economy had similar arrangements with the

Ministry of Finance, with serious budgetary implications for the State treasury.

A change of method

In 1988/89 the PBC reached the conclusion that the magnitude of the matching allocations for interest accruing to endowment funds was beginning to distort the PBC's considerations for the determination of allocations to ordinary budgets - considerations that were based on the criteria of scientific output and numbers of graduates at all levels. (These criteria were described in the 12th annual report of the PBC).

A date was designated after which matching allocations for new endowment funds would no longer be made, although the PBC undertook to continue allocations for endowment funds set up prior to that date, according to guidelines formulated by the PBC in 1981/82.

Other earmarked allocations

The PBC makes other allocations for special subjects, in addition to those for research and matching allocations. Allocations for libraries have increased considerably; the PBC now covers directly over 50% of the cost of book acquisitions by universities. These allocations are continuing in order to bring about rapid development of university libraries after the lean years at the beginning of the 1980's and end of the 1970's. These allocations also contribute indirectly to the advancement of university research and teaching.

The PBC covers all the expenses connected with the operation of the inter-university library communication network because of its obvious inter-institutional nature. For the same reason the PBC has for several years been financing the "Aleph" project for the computerization of university libraries and the creation of a data base that will serve as a cataloging and lending tool for university staff members.

Lately the PBC has begun limiting its various earmarked allocations to specified periods of time (usually three years). Allocations of this type include: fellowships for doctoral students in the humanities and social sciences; allocations to promote the fields of electronics and computers (concluded); and the allocations for the development of university computing centers, which is about to be replaced by allocations for specific subjects, such as work-stations, etc.

The development budget

The development budget at the disposal of the higher education system each year is less than $3 million. Most of the construction projects that are still being carried out are financed entirely from contributions but still require the prior approval of the PBC, which may be made conditional on the establishment of an endowment fund to cover upkeep, or on other terms.

A special development budget was made available to Ben-Gurion University of the Negev to cover an obligation of the Ministry of Finance to a donor dating from the 1970's which was only implemented this year. Development budgets will probably increase considerably in coming years because of the expected expansion of the higher education system, due to the welcome wave of immigration.

The universities

The central pillar of the higher education system in Israel is the universities. The Hebrew University of Jerusalem, the Technion, the Weizmann Institute of Science, Tel-Aviv University and Bar-Ilan University have general accreditation and are authorized to award all academic degrees. The Council for Higher Education oversees the application of this authorization and examines requests to open new academic programs which, according to the PBC, have financial significance.

Ben-Gurion University of the Negev is authorized to award all three degrees (bachelor's, master's and Ph.D.) in the natural and technological sciences, the bachelor's degree and degree of doctor of medicine in the health sciences and the master's degree in a number of fields in the humanities and the social sciences; the Council has determined procedures that will provide for the award of the Ph.D. in the humanities and social sciences, in certain cases.

The University of Haifa is authorized to award the master's degree in most of the fields of study offered at the university and the Ph.D. in many of them. The joint University of Haifa - Technion master's degree program in economics is especially worthy of note.

The Open University is a unique institution because of its method of instruction - distance learning. The Open University is authorized to award the bachelor's degree. The activities of the Open University extend throughout the country; its capacity to provide high-level academic instruction anywhere in the country has earned it a great deal of respect and enabled it to rapidly increase its number of students, especially in the past two years.

The PBC considers the Open University and the programs that it operates jointly with other universities in regional colleges throughout the country to be a most important means of enabling all those who are interested and capable to attempt academic study.

The programs in the regional colleges are conducted under the academic, but not administrative, auspices of the universities. The curriculum, examinations, selection of staff and admission of students are determined by the university, which also awards the degree to those who have successfully completed the course of study. Classes are held outside of the university campus. Budgets are not provided by the universities or the PBC. A special subcommittee of the Council for Higher Education supervises and encourages these programs.

Non-university institutions

Five non-university institutions of higher education that award a professional bachelor's degree have, in the past ten years, completed the process of academization. Bezalel - Academy of Art and Design, Jerusalem, the Jerusalem Rubin Academy of Music and Dance, Shenkar - College of Textile Technology and Fashion, and Jerusalem College of Technology are all funded by the PBC, which follows their activity as part of the planning role entrusted to it.

The College of Management in Tel-Aviv has received accreditation for its academic course of study and is authorized to award the degree "Bachelor of Business" in this course. This course constitutes an institution of higher education which is not funded by the PBC. It is funded entirely from independent sources, including tuition fees; funding for student aid programs is also from independent sources.

The PBC has come to the conclusion that a limited number of additional institutions for technological education might have to be established. These would be undergraduate only and would award a Bachelor of Technology degree, similar to Jerusalem College of Technology and Shenkar - College of Textile Technology and Fashion. The need for such institutions is intensifying due to forecasts for increases in student numbers in the higher education system as a result of the wave of immigration and the expected preferences of this additional student population. This subject is currently on the Council's agenda.

The academization of a number of teacher training colleges may be considered completed. Care must be taken to prevent the unwarranted proliferation of teacher training colleges for the following reasons:

a. The quality and level of the "Bachelor of Education" degree must be maintained;
b. We must strive for a limited number of relatively large academic institutions, not only because of considerations of academic quality, but also because of efficiency, both academic and economic.

Teacher training institutions are funded by the Ministry of Education and Culture, not the PBC. The training of teachers is one of the central functions of the educational system; it is therefore important that their distinctive character be determined by the Ministry of Education and Culture.

The policy, prevalent in recent years, of the academization of teacher training institutions was determined jointly by the Ministry of Education and Culture and the Council for Higher Education and implemented through a permanent joint sub-committee for academic courses in teacher training institutions. When this process concluded the Council decided to entrust the sub-committee with evaluation of the success of the process and the extent to which the original objectives were attained.

The establishment of a restricted number of institutions for the training of teachers for technological education, awarding the degree of "Bachelor of Education (Technology)", has also been approved in principle. The first program of this type is being implemented at the "ORT" College in Jerusalem, which has received a permit to open and maintain an institution of higher education for its course for the training of teachers in electronics.

The PBC is, at the same time, encouraging the academic involvement of the Open University in teacher training institutions. The intention is to offer academic studies, through the Open University, combined with professional studies in a non-academic college. This enables interested and capable students the option of studying for an Open University bachelor's degree together with their professional training, although it requires additional effort and lengthens the period of study somewhat.

This is a new process - the academization of some of the students in a non-academic post-secondary institution, without initiating the steps that would convert the college itself into an academic institution awarding the bachelor's degree. The challenge involved has attracted a fair number of students.

Growth of the student population and new types of institution

A complicated issue that has been debated for a number of years is the possible establishment of a college that will award the bachelor's degree only, in certain fields, and will help solve the problem of excess demand for higher education in the center of the country.
This excess demand will increase considerably in the coming years: the total number of students in the higher education system is expected to increase by 30-50% due to the anticipated arrival of approximately a million immigrants in four years and due to natural increase. In general, the PBC refrains from dictating to the universities the number of students that they may admit. The PBC has always been opposed to detailed and centralized dictation of student numbers as is common in some European countries.

On the other hand, the PBC encourages certain institutions, namely Ben-Gurion University of the Negev, the University of Haifa, the Hebrew University of Jerusalem and the Technion, to increase their student numbers significantly; the campuses of Tel-Aviv University and Bar-Ilan University should grow only moderately.

The PBC's aim is to strengthen the south, Jerusalem and the north at the expense of the center of the country and to strengthen scientific and technological subjects. The PBC encourages increasing the number of students in programs run jointly by universities (including those in the center of the country) and the Open University in the regional colleges, and views these programs as an important method of strengthening the north and the south of the country.

Despite these policies, the PBC realizes the necessity of establishing a college that will offer only undergraduate courses in certain subjects in the center of the country, on condition that it will be a large institution, with room for at least 4,000 students, in order to ensure academic quality and economic efficiency.

The existence of such an institution will enable the universities in the center of the country to concentrate on increasing the number of graduate students studying in them and on research; they will also be able to concentrate on academic responsibility for joint programs in regional colleges all over the country and the absorption of thousands of additional students in these programs. However, the Council for Higher Education must also take into consideration the proper timing for the establishment of such an institution and the concern that if it is established too soon it may harm efforts to increase the numbers of students in universities in the south and the north and the expansion of joint academic programs in regional colleges.

A proper time for this step must therefore be chosen and it should be started in a manner similar to the joint academic programs in the regional colleges: universities in the center of the country, together with the Open University, are academically responsible for them and they employ local staff members of the college for instruction. Accreditation for the institution to operate as an institution of higher education can come only after a number of years.

The budget of such an institution should be covered for the most part from tuition fees. Financial responsibility for the institution could be undertaken by public organizations that will depend on independent resources, public sources (such as municipalities) or State assistance.

Two years ago the Council for Higher Education decided to appeal to the universities to establish a centralized registration system. The need for such a system will only intensify with the widening of access to undergraduate studies, both in the universities and outside of them.

* * * * * *

These five years have been full of problems and conflicts but also of accomplishments. If the terms of office of my predecessors were characterized by financial struggles with the Ministry of Finance, during which "the Ministry of Finance's attitude toward the higher education system bordered on open hostility" (from the PBC's 12th annual report), there has been marked improvement during my term of office. This improvement contributed toward the strengthening of the higher education system and the research carried out in it; it also contributed indirectly to the reinforcement of the PBC's status as an independent body coming between the Government and the national institutions, on the one hand, and the institutions of higher education on the other, whose role is to allocate exclusively the budgets to the institutions of higher education, while vigilantly promoting research and instruction, as it is required to do by the Council for Higher Education Law and Government decisions.

The portion of the State budget intended for the higher education system and the research carried out in it and the reinforcement of the PBC's independent status were apparently a thorn in the side of the Ministry of Science and Technology which, until a year ago, tried to undermine the PBC's independent status and, indirectly, even the legal status of the Council for Higher Education.

The PBC counter-attacked and the issue was withdrawn from the public agenda. Relations between the PBC and the Ministry of Science and Technology have now returned to normal.

Nevertheless, this quarrel presented the PBC and the Council in a misleading light, as if they were merely trying to preserve their "fiefdom" so to speak rather than working for the benefit of the purpose for which they were established. One of the PBC's most difficult tasks was to try to convince the committees and members of the Knesset that the Council is reverently fulfilling its principal function, namely - preserving the scientific and cultural heritage of the State of Israel at a high level for future generations. This task is not always simple and certainly does not always coincide with the immediate desires of Israeli society.

Even though we must strive to ensure that all holders of the "Bagrut" (matriculation) certificate who are capable and wish to attempt academic studies should be able to do so, this does not mean that all holders of the Bagrut will, and must, complete their studies. It is also impossible to undertake to permit every student to study the subject that he or she wishes to study. There will always be some subjects that are expensive to teach (such as medicine or engineering) and some that lead to narrow professional qualifications but are suddenly very much in demand. Only those with experience in this area realize how unstable demand can be. The demand for accountancy and computer studies was very high only two or three years ago but has eased up considerably this year. The Council and the PBC have done much recently to expand the opportunities for undergraduate study, but the results are, naturally, not immediately visible since we are dealing with an infrastructural system spread out over many years.

The PBC's recent successes in its efforts to put the higher education system and the research carried out in it on a firm budgetary and planning footing are readily visible and can be measured. If we have succeeded, a little, in convincing the Knesset committees and members that the subject with which we are dealing is vital to the State of Israel and its scientific, cultural and industrial infrastructure for the years to come and should be treated with respect - that will suffice us. If we have failed - we must regret it.

And to Acknowledgments.

I will begin by expressing my gratitude to the members and staff of the PBC and the Council for Higher Education. They have all contributed greatly to the accomplishments of the PBC, were happy for its successes and saddened to hear of any criticism of the Council and the PBC. There is not enough room here to list them all by their names, but I am grateful to them for their dedication and their work together as a loyal and experienced team.

Nevertheless, I would like to thank some of those who have been personally associated with my work at the PBC: the Council's second director-general, Simcha Landau, who contributed greatly to the consolidation of the PBC's long-term budgetary plan and to the persuasion of the staff of the Ministry of Finance Budget Department to adopt this revolutionary concept, and who served as a cautious and profound critic for the "crazy ideas" that I occasionally proposed.

The third director-general, Gury Zilkha, who in his previous position as director of budgets in the PBC was the central factor in the implementation of the PBC's program for long-term agreements. In his wisdom and patience he succeeded in developing a continuing relationship of trust with the Ministry of Finance on the one hand and with the directors-general of the universities on the other hand.

To Esti Regev, secretary to the chairman and the Director -General, my thanks for her diligence and the "external relations" that she managed so competently. And last but not least, to Shmuel Chen, chauffeur of the Council for Higher Education, for his long hours of driving, friendly conversation and sometimes silence, which was always just right during a long night drive after a tiring day of work.

Needless to say it was a privilege for me to work with all the members of the PBC: Gurion Meltzer, Simcha Soroker, Haim Stoessel, Nehemia Levtzion, Ozer Schild, Ernest Krausz, Kenny Preiss, Itzhack Ish-Hurvitz, Anita Shapira, Gur Ofer, Yadin Dudai, and Daniel Sperber.
With some of them I had the honor of working for five years or longer, and with some only a few weeks. All that the PBC has accomplished during these five years, and it has accomplished much, is due to these PBC members, who carried out their work wholeheartedly and with understanding.

I had the honor of working with a large number of university presidents, rectors and directors-general, heads of non-university institutions, and many others in the higher education system. All of them cooperated with the PBC during the past five years. Sometimes cooperation was achieved only after a long and stormy dispute, but we all had the best interests of Israeli higher education at heart. If we disagreed on something or other it was only on the most proper way of achieving the aim which drew us all together.

I thank them all for their friendliness and cooperation.

The Knesset Education and Culture Committee, out of all the Knesset committees, served as the principal platform on which I could raise the problems and achievements of the higher education system. On the other hand - this was also the principal platform for expressing public misgivings and wishes connected with the system. I would like to mention with gratitude two chairmen of the Knesset Education and Culture Committee in particular - Nachman Raz, who served during most of the period, and Michael Bar-Zohar, during the most recent period.

I gained the cooperation of three ministers of finance - Yitzhak Modai, at the beginning and again most recently, Moshe Nissim and Shimon Peres. They all viewed the PBC as a positive and central factor in the advancement of the higher education system and research, and they all were scrupulous in maintaining the authority of the PBC and resisting all attempts to circumvent it. Without their support and their just and open attitude, we would not be able to take pride in certain budgetary accomplishments that were mentioned above and I thank them for this.

Two ministers of education and culture served during these years: Yitzhak Navon and Zevulun Hammer. As Chairman of the Council for Higher Education, each of them stood by and assisted the PBC, meticulously maintaining the PBC's autonomy and independence while steadfastly supporting it.

My very best wishes to Prof. Amnon Pazy, the fourth Chairman of the PBC. I am convinced that he will know how to navigate the higher education system in a period which will surely be full of challenges and will demand an immense surge of development and progress. The PBC's experienced staff will support him. I hope that the Government will do what is necessary for the further promotion and development of the higher education system and research, despite the constraints of the times, and will sustain it for the glory of the State of Israel.

Jacob Ziv

January-February 1991

A STATEMENT BY THE OUTGOING DIRECTOR-GENERAL

It was with pleasure that I accepted the invitation of the Chairman of the PBC, Prof. Jacob Ziv, to contribute a summary for the 17th annual report of the PBC for 1989/90 - the last year of my service as the second Director-General of the Council for Higher Education and the first for its third Director-General.

The 1989/90 academic year was a calm year for the higher education system in Israel - both in terms of continuing budgetary and debt consolidation and of "industrial peace" following the agreement on tuition fees for the years 1989/90 and 1990/91.

This "peace" was disturbed just prior to the opening of the 1990/91 academic year with the controversy over the question of tuition fees for 1991/92 and the following years.
Without discussing the ideologies which lie or appear to lie behind this issue, it should be noted that as long as tuition fees remain substantial, the economic and not only the budgetary aspects of the subject should be dealt with.

The institutions of higher education view tuition fees mainly as a source of budgetary income - a substitute for government allocations - while students' representatives consider them a socially unjustified burden rather than an investment. These approaches are reflected in the concept of uniformity of tuition fees, for all levels of study, all subjects and at all institutions. A more economic approach would call for reducing this uniformity, at least partly, by allowing for more flexibility, within an agreed range. The same approach could also be applied to student aid and scholarships as well, thus creating a socio-economic mechanism of gross investment and net investment over a period of time. Such a mechanism would introduce an additional element of rationality, both for the individual and at the institutional level.

The 1989/90 academic year was a period of transition and organization for the absorption into the higher education system of students who arrived in Israel as part of the new wave of immigration, mostly from the Soviet Union.

Certain policies were determined even before the budgets necessary for this task were ensured:

- special preparation for immigrant students should be provided;
- equality of opportunities to compete for admission to higher education should be ensured;

- access to higher education should be expanded.

As the wave of immigration swells, a welcome and almost unprecedented increase in the number of students in preparatory courses and in the faculties is expected, as well as the increased recruitment of teaching and research staffs and the expansion of infrastructure. The lack of symmetry between the absorption of students and the recruitment of staff and expansion of infrastructure derive from the need to operate internal mechanisms in each and every institution, augmenting the productivity of existing staff and facilities throughout the academic year, including summer semesters.

The State will, no doubt, provide the funds necessary to cover the expenses involved in absorbing new immigrant students and staff. However, balanced development of the system will be impossible without other assistance - mainly from patrons of the universities - for student housing, scholarships, libraries, and equipment.

The principles for the absorption of new immigrant students apply equally to the recruiting of teaching and research staff from among the new immigrants, that is - proper preparation, equal opportunities and expansion of opportunities. These principles will facilitate the absorption of new immigrant students and staff in existing institutions and presumably in new institutions as well. Yet, the majority of new immigrant scientists will not be able to find employment - in teaching or in research - in the institutions of higher education, but rather in other sectors of the economy that need research and development, notably in the industries.

An additional area in which the higher education system can contribute to the national effort for the absorption of immigrants is by providing supplementary studies or advanced vocational training on an academic level, as needed.

The 1989/90 academic year brought with it an unexpected innovation - the intensive intervention of the Knesset in matters affecting the Council for Higher Education. Three legislative initiatives dealt with higher education: the granting of a special status to the representation of the National Union of Students in the Council for Higher Education; the creation of non-academic options for legal studies; and the establishment of an independent "Sub-Council" of the Council for Higher Education. I will refer at length only to the last of these inititiatives because of its far-reaching consequences.

This proposal reduces the Council's authority and creates a separate track, virtually independent of the Council, for the licensing and accreditation of non-university institutions of higher education. The material implication of this proposal is that if the Council does not agree, voluntarily, to create such a track, the proposed law would authorize another agent to do so.

To the best of my judgement, the Council should, for conceptual as well as practical reasons, be the pacesetter in the development of a complementary and parallel track in higher education, since the creation of an alternative system, in a small country such as Israel, would tend to increase the sense of alienation between students admitted into one system and those admitted into the other.

Actually, the Council has in the past accredited professional institutions of higher education that are not universities and continues to do so. The Council authorized these institutons to award certain specialized bachelor's degrees, such as the Bachelor of Education degree (B.Ed.), in the course of the extension of academization in various professions. The Council's guiding principle in the accreditation of such institutions is that the degree awarded should be equivalent to the bachelor's degree awarded by a university, even if the requirements for admission differ in substance from those for a general university bachelor's degree.

The challenge that the Council will be facing is the accreditation of non-university institutions awarding a non-specialized bachelor's degree, equivalent to that of a university, yet based on different admission requirements.

The equivalency of degrees is at the crux of the problem; it is the central, and in my opinion the only, dilemma confronting the Council today. Even though this is a matter for the Council to decide, I take the liberty of raising a few thoughts and reflections on this dilemma. I am of the opinion that the establishment of such an institution should be thoroughly examined. The institution should be relatively large (5,000-10,000 students) with a curriculum that takes into consideration the differences in admission requirements (and might therefore be extended over a greater number of semesters) and whose staff members are mainly oriented toward quality teaching. The process of accreditation and authorization to award degrees can ensure that the bachelor's degree awarded by such an institution would indeed be equivalent to that of a university.

Such an institution should preferably be located in the center of the country so that it would be accessible to the widest possible student population, including new immigrants, and could be formally guided by the universities nearby (the Hebrew University of Jerusalem, Tel-Aviv University, Bar-Ilan

University and the Weizmann Institute of Science). Moreover, the cooperation of these universities, or some of them, in such a venture would by itself be very welcome. Their main contribution would be in their experience and academic inspiration, since the new institution should be fully independent from an economic and budgetary point of view.

Cooperation of this nature would also ensure an academic and administrative structure that will facilitate the mobility of students and graduates within the higher education system.

Without the backing of established universities, the mobility of students and graduates would be much more difficult, not to mention the difficulties if the new institution didn't receive accreditation from the Council for Higher Education, but from some other body, even if it is, in formal terms, a "Sub-Council".

The size and composition of the wave of immigration, and the intensified demand for admission to higher education are, by themselves, good causes for reconsidering the Council's previous position on the subject of the bachelor's degree.

This is not the place for an in-depth discussion of the budgetary implications of the increase in the student population. It should be clear, however, that an increase in the number of graduates from institutions of higher education, relative to the number of graduates of other post-secondary or vocational institutions, will bring about a change in the qualifications and demands of job-seekers in the economy and will thus influence the employment structure of the economy.

The legislative initiatives mentioned above had an element of novelty and surprise, even though the previous Minister of Science and Technology had already expressed similar ideas. I allow myself a few reflections on this subject.

It is difficult to think of a more concise and precise formulation of the characteristic of the Council and the PBC than their absence in the general public's awareness, despite the fact that the "public" that is affected by the Council and the PBC is quite large. At any time this public numbers about 100,000 families of students, staff, and researchers, and even more families of potential students, i.e. - high school students. This characteristic epitomises the Council's and the PBC's concept of their role and method of work - to modestly serve the aims of education and culture while refraining from fostering a public relations image. Their policy is to keep government interference in the higher education system to a necessary minimum, not only in order to preserve the autonomy of the institutions, but also in order to emphasize the responsibility of the institutions based on this autonomy.

This policy, which is to a large degree unique in the Israeli government arena, has been met by a lack of understanding, a lack of agreement, and even by a bit of jealousy diluted with amazement from those who think that power and authority should be used and that "he who pays the piper calls the tune". For them, the use of authority is called planning and its implementation is budgeting according to planning - as detailed as possible.

The Council, however, has found that it is impossible to plan, certainly not in detail, and it is impossible to bridge the gap between the desires of potential students on the one hand and the "needs of the economy" on the other. As to the "needs of the economy" (the quotation marks are not by chance) - any attempt to base projections of supply and demand on them is not only doomed to failure but the cost of mistakes in such an attempt is much greater than the cost of a scarcity or over-supply of this or that profession at one time or another. (The undersigned is well aware of the problems of economic planning, having served as Director of the Economic Planning Authority of the Ministry of Finance from 1972-1977).

The best planning mechanism is the wishes of potential students; the "needs of the economy" will develop from the feed-back on their professional preferences. This principle was adopted by the Council and is the basis for the assumption that those confronted with demand - the institutions - will increase the supply of opportunities for study to meet that demand. This principle has indeed proven to be realistic. An example of its success is the fact that requests by the institutions to open new courses of study or expand existing ones are usually approved by the Council and the PBC, depending on budgetary constraints, unless there are special circumstances, such as duplication of courses, in cases of obvious under-utilized capacity in the system as a whole, or, rarely, a lack of academic substantiality. Experience has shown that the Council and the PBC are usually confronted with initiatives that call for a response or even blockage, and only in exceptional cases are they asked to initiate in matters concerning the expansion and increase of "supply". In contrast, the Council and the PBC have a more active role in initiating the curtailment of "supply" in those fields which are in decreasing demand. The annual reports of the PBC include a section on new units which have been approved and units which have closed.

These processes are taking place in a situation in which resources are not unlimited, thus preventing at any given time full balance between supply and demand. Perfect balance is, in any case, hypothetical since demand changes and the reaction time needed to adapt to these changes is relatively long.

There are countries that have created a sufficiently large "supply" of opportunities for study to enable every student to study his or her preferred subject; "surplus" places of study are sold to foreign students. In Israel this is not the case and would be very hard to implement, if only because of language difficulties. It appears, therefore, that we will never be able to achieve complete balance of supply and demand at the level of the individual's preferred field of study.

This imbalance occasionally gives rise to public pressure, either by students who are unable to study their preferred subjects (such as law, psychology, business administration or medicine) or by the economic-political establishment on behalf of "the needs of the economy" (such as in electronics or computers).

In such cases the Council has little choice but to partially accept public opinion even if according to its information, which is usually reliable, this opinion doesn't always reflect lasting trends of demand. Concessions of this kind usually take the form of special allocations to institutions that are willing to expand their activities in those subjects in which there is supposedly a lack of opportunities for study.

In conditions of uncertainity, which can not be overcome, and in view of the inability to create intentional excess supply, there seems to be no other workable options open to the Council, but care must be taken to minimize the budgetary risks inherent in such actions as much as possible.

The higher education system in Israel is fortunate in the sense that the statutory body governing it is independent and, in theory as well as in practice, based on the notion of self-government. This structure, anchored in an enlightened law, imposes full responsibility for the academic level and the proper functioning of the system as a whole, and for each institution within it, on its members. Experience has shown that this kind of government is beneficial, not the least for what is called "academic freedom".

In this context I would like to mention the words of Prof. Jacob Ziv, Chairman of the PBC, at a symposium held on November 25, 1987 on the future of higher education in Israel. Speaking on the connection between academic freedom in institutions of higher education and the economic independence of these institutions, he said: "The danger to academic freedom exists but it is the continuance of budgetary imbalance in some of the institutions and the source of this danger lies in the university itself." This statement is still relevant, - perhaps even more so today when the call for "accountability for taxpayers' money" approaches the level seen in Britain not so long ago.

The institutions, as part of their responsiblity and with the support of the PBC, have developed and formalized systems for cooperation between themselves, whether in the use of libraries and computers or in services to the public. Such a service is the National Center for Testing and Evaluation, established by the Committee of Heads of Universities. Its success makes the absence of a similar center for the registration of students even more obvious. The natural setting for such a center would be in the National Center for Testing and Evaluation. The operation of such a center is both vital and urgent and must be given maximum priority. The Council and the PBC are prepared to assist, materially and otherwise.

He who has responsibility is expected to live up to the obligations involved, whereas in those areas in which responsibility is limited, externally imposed uniformity is often created. One obvious example is the method of remuneration for staff members, particularly senior academic staff, in the institutions of higher education. This uniformity prevents the institutions from effectively and flexibly utilizing their staffs. It must be remembered that the main component of expenditures is on staff wages and that staff is the prime asset of the higher education system. The main drawback in uniformity is that it makes it difficult to reward excellence or to support the internal priorities of the institution by economic means. Serious discussions on this problem must be started, despite existing budgetary limitations, since the[illegible] will always exist.

I retired from the Council before discussions began on the budget for 1990/91, after six years as Director-General of the Council and many years of service in a variety of economic positions in the civil service, mainly in the Ministry of Finance or on its behalf.

I brought with me to the Council a great deal of experience in the areas of economics and budgeting and it was this last - budgeting - that I was able to make good use of in the Council because the higher education system, similar to other public systems, sees itself in budgetary-service terms rather than economics - investment terms.

Anyone who is familiar with the PBC's current relations with the Ministry of Finance and its Budget Department and the scope of the budgets available to the higher education system will notice the changes that have taken place since my first report as Director-General of the the Council - the 11th annual report, for the 1983/84 academic year, in which I wrote: "It has fallen to my lot to take up my post in the second year of financial uncertainty for higher education. As our sages say - `where there is no bread there is no Torah'".

Not only is the long-term budgetary plan being implemented, but its scope and regularity have enabled the institutions to prepare long-range budgets, thus opening new perspectives. Mr. Gury Zilkha's contribution to this process, and that of his staff, is particularly notable; the choice of Mr. Zilkha as third Director-General of the Council is evidence of this. I am particularly pleased with this choice, not only because of his qualifications, but because this is the first time since the Council was established that a staff member has been promoted to the post of Director-General, rather than choosing an external appointee.

The 11th - 16th annual reports of the PBC for the years 1983/84 - 1988/89 will provide the interested reader with more information on the events of these years.

In closing, I would like to take leave of the previous Chairman of the Council, Member of Knesset Mr. Yitzhak Navon, whose friendship is dear to me; the present Chairman of the Council, the Minister of Education and Culture Mr. Zevulun Hammer, who appointed me as Director-General; the members of the Council and its committees; the Chairman of the PBC, Prof. Jacob Ziv, with whom I had the pleasure of working during most of my tenure; the members of the PBC and its committees; the new Director-General, Mr. Gury Zilkha, whom I was fortunate to have had as the Director of Budgets of the Council; and to the Council's loyal staff of employees.

I also take leave of my friends and colleagues in the institutions of higher education, the Ministry of Finance and in particular its Budget Department, the Ministry of Education and Culture, the State Comptroller's Office, the Knesset and in all those institutions with which I worked.

A special farewell is due to the Tutorial Project ("Perach"), with which I was especially connected and to its director, Mr. Amos Carmelli. Last, but not least, a fond farewell to Prof. Haim Harari, in all his functions in the past as well as in the present.

I have learnt much during these years from all of them and I owe them my gratitude.

The last sentence is for the future - my best wishes for success to Prof. Amnon Pazy and to Mr. Gury Zilkha.

Simcha Landau

October 1990